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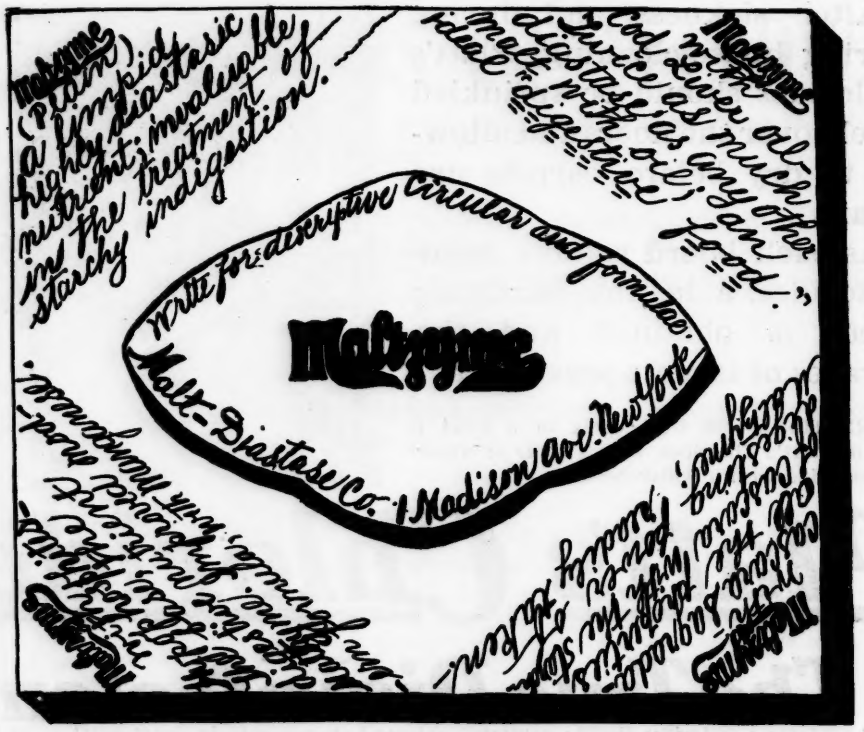

MEDICAL AND SURGICAL REPORTER.

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ORIGINAL ARTICLES.

LARGE INGUINO-SCROTAL HERNIÆ AND THEIR RADICAL TREATMENT.

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The herniæ considered in this paper are those which have little by little acquired an enormous size, having greatly distended the inguinal canal, and in which a large amount of intestine has passed into the sac of the hernia and becomes, in a measure, a real diverticulum of the abdominal cavity.

These herniæ are generally more or less reducible and in some cases one may be able to push them into the abdomen after a long and difficult taxis, but they will not remain there and immediately return into the sac.

It may be said that they actually lost their right of remaining within the peritoneum because they cannot be made to enter, and if you try to push the intestine through the abdominal rings, (which in these cases are extremely dilated) other coils of the intestine will come down in a way to lead to the supposition that the abdominal cavity was already filled by the portion which was first pushed back. For that matter, in these cases, the abdominal cavity becomes a little retracted and in such a way that after a while it will not permit the intestine to be returned.

The large size of the hernia may also be due to the presence of certain portions of organs contained in the sac, which, after they have left the abdominal cavity, increase in size and can no longer be pushed through the inguinal canal; for example, in hypertrophy due to chronic inflammation of a plug of mesentery, or a loop of intestine which is the seat of chronic inflammation.

In the majority of cases the hernia cannot be reduced on account of the adhesions which are formed. In certain herniæ of the large intestine, the sac is formed by the gut slowly sliding out through the inguinal canal and drawing along with it a part of the meso-colon, which soon becomes an integral part of the sac itself. If this meso-colon is sufficiently long, the hernia may still be reducible, but otherwise it is irreducible. The adhesions may also have an inflammatory origin, and mat together between them two coils of intestines; or on the other hand, the mesentery may adhere to the intestine, particularly if it be the large intestine which is in the sac. And lastly, it may adhere both to the intestine and to the sac, thus acting like a cement which glues them all together.

Beside the adhesions there are other marked changes in other parts of the hernia. The sac is usually thickened and more resistant than normal. The intestine is also the seat of lesions; it is deformed, and presents abnormal flexions which vary from a sharp bend to very irregular folds and even partial torsion. The walls of the intestine are often markedly changed. They are modified in their structure either on account of interstitial exudation, which produces much thickening, or retraction may take place following absorption of these inflammatory products. The mucous membrane is red and swollen, while the valves form large folds; there may be also partial stricture of the intestine. Surgeons will often meet with a considerable development of appendages made up of mesentery of the large intestine and which are almost always adherent to one another but may present very different aspects. Let us now examine in what way these herniæ may be separated into two divisions, acquired herniæ or herniæ with a closed canal and congenital herniæ or herniæ with an open canal.

Among the large acquired herniæ the most frequently met with is the external oblique variety. In order to arrive at its complete development this passes through a number of stages. The intestine, pressing down upon the peritoneal orifice, insinuates itself into the deepest parts of the inguinal canal and thus forms the apex of the hernia. Then it comes through the external orifice of the ring and appears under the fold of the groin, forming what the older surgeons called a bubonocele. And lastly, the intestine enters the scrotum and then we have an inguino-scrotal hernia. The intestine may go through these different stages with variable rapidity, sometimes very quickly, but it can never form all at once. The sac becomes larger little by little from the effect of locomotion.

No matter what may be the development of the hernia, the ring of the sac always has the same relationship to the epigastric artery, which

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is situated immediately on the inner side of the vessel. This relationship changes in direct and internal oblique hernia, in which case the artery is situated on the external aspect of the ring of the sac. These last two varieties are infrequent and very rarely form the large variety of hernia which is the subject of this paper. In external oblique hernia, which is the most common variety, it passes above the cord in the inguinal canal and below the arciform fibers of the small oblique and transverse muscles; then it comes out under the cremaster and in front of the spermatic cord.

There is also sometimes seen a stricture of the neck of the sac at the point corresponding to the external and internal inguinal ring but when the hernia is of long standing the serous canal is enlarged and distended, while its relationship to the elements of the spermatic cord are no longer what they were in the beginning. The vessels are dissociated and spread over the posterior surface of the sac in a cellular tissue which lines it. In the same way, both rings of the sac soon come together and form but one. The internal ring of the inguinal canal becomes dilated, especially outwards, and then the epigastric artery surrounds its semi-circumference at the lower internal aspect; on the contrary, the external ring becomes enlarged, especially outwardly. It is easy to see that both rings which have developed in an opposite sense, are at a given time placed opposite one another, while the hernia thus becomes a direct one and little by little the rings of the sac become united and form but one.

When these herniæ are of long standing the sac is very fixed and the enveloping membranes become glued together. Adipose masses often develop around the elements of the spermatic cord. It is the same way in hydrocele, which is also contained in a white and thickened vaginal membrane which has lost its elasticity. When the sac reaches down to the liquid collection, it goes behind it although up to that time it has remained in front of the spermatic cord, a fact which has been pointed out by Curling, Dupuytren and others.

Vaginalitis without liquid collection is frequent and will often be found in the form of a true symphysis binding the testicle. Often the testicle and epididymis are in a state of chronic inflammation.

When we examine a patient presenting a large hernia of the variety under consideration, the large size of the tumor is sometimes astonishing. It is not always absolutely regular in form and usually appears covered with bosses or it may be bi-lobed. On palpation this tumor will be found slightly distended, elastic and only slightly painful on pressure. Nevertheless, its consistency varies according to the case, as well as to the amount of omentum contained in the sac. When there is a good deal of the latter, it gives a pasty consistency to the tumor, the hernia is lobulated and by careful examination hard points of variable size and thickness are found.

If the inguinal canal is now explored in the majority of cases it will be found dilated and enlarged, while, by pushing back the skin, the finger can be easily introduced into the interior of the canal.

Now, seizing the tumor with the hand, and asking the patient to cough, an impulsion and a marked tension will be felt, similar to that found in a reducible hernia. But if we try to reduce the tumor, it will soon be found that it partially or completely resists taxis. In those herniæ which are irreducible, and which have lost their right of place in the abdominal cavity, reduction is possible but cannot be maintained because the intestine will come out as fast as it is pushed in.

If we are dealing with an adherent hernia, which is by far the most frequent, reduction of the intestine is sometimes possible and when it goes into the abdominal cavity the characteristic gurgling sound is heard. The remainder of the tumor will then present all the characters of an epiplocele, with this exception,—that it is irreducible. In some cases which are, however, infrequent, nothing can be reduced and the most methodic and well-performed taxis will give no result whatever.

These herniæ often produce functional trouble, such as the constant inconvenience resulting from the weight and the size of the tumor, as well as a dragging sensation which may be sufficient to considerably hinder walking. There may also be dull as well as colicky pains localized in the tumor itself and sometimes shooting through the entire abdomen. Sometimes digestive disturbances are also present.

These herniæ are also apt to give rise to accidents which may be divided into two groups, slight and serious. The slight accidents occur at rather short intervals in the form of pain, with swelling of the hernia, nausea and even vomiting. Ordinarily they subside without much trouble, but with each one of these attacks the condition of the hernia is always rendered more complicated.

The serious accidents may occur in two distinct forms, an acute form which corresponds to true strangulation and which presents all the symptoms of this complication. There is also a sub-acute form which is due to certain intestinal acclusions caused by bands of adhesions and which has been described under the name of intestinal obstruction.

The prognosis of these accidents is very serious because death will probably occur sooner or later, and because in those cases in which the patient recovers, he is often extremely weakened. According to Boifin this weakness is due to an insufficient intestinal absorption. All these accidents, whether slight or serious, should put the surgeon on his guard because they indicate the necessity of an operation.

Considering, now, congenital hernia, we would, in the first place, say that this type may also be called vagino-peritoneal because it occurs in the vagino-peritoneal canal, which has remained patent in part of its length or entirely so. The testicle, which in the first place is an abdominal organ, is little by little drawn on by the gubernaculum testis and finally descends into the scrotum. It is accompanied by a serous prolongation which either precedes or follows it. It is usually during the ninth month of intra-uterine life that the testicle has completed its migration. At birth it is generally in the scrotum but not infrequently a partial or total permeability of the canal will be found. Its occlusion, according to Jarjavay, begins at the center of the canal and continues upwards and downwards at the same time, but occasionally the centers of occlusion are numerous.

If occlusion is complete, various abnormal conditions result which may be divided into three degrees. In the first, we have an infundibuliform sac which does not pass beyond the *fascia transversalis;* secondly, the diverticulum descends for a certain distance along the spermatic cord, and thirdly, we have those cases in which the canal reaches down to the testicle. It is this last variety alone which will be considered because it is the one that gives place to the large hernia under consideration.

The caliber of the canal is far from being always regular and often it presents strictured portions. Their seat is always found at the same place, namely, one at the internal and one at the external inguinal ring, which are nearly always constant. Another will often be found below the inguinal canal near the head of the epididymis at the limit of what should have formed the vaginal membrance, but according to Broca it may be higher up.

The connections with the spermatic cord are as follows: The spermatic cord is, at the extra-inguinal portion, in the postero-internal wall of the serous canal; in the inguinal tract it is down and behind. This condition of affairs is the inverse if there is inversion. In order to well understand the congenital hernia two types must be described according to whether there is ectopia of the testicle or whether this gland is in normal position.

When the testicle is in its normal position, and I will only here speak of the extra-parietal hernia, the loop of intestine only ceases descending when it enters into a closed cavity. It can be very well understood that one of these strictures such as has been already described, may be sufficiently small to form a sort of diaphragm. Under the influence of an effort, the abdominal orifice becomes forced open and the intestine will brusquely penetrate into the preformed canal, going at once to the bottom of the cul-de-sac, after which the sac increases in size on account of the distension. But the more strictures there are, the more are the points of resistance, while the underlying dilatations become extended and thus is explained the sacs with multiple rings.

In hernia of the testicle the latter organ often becomes atrophied even when it is not in a state of ectopia. In hernia of the testicle with inversion, the spermatic cord will be situated in front of the sac.

A testicle in the state of ectopia, will stop somewhere on its normal route and several conditions may occur. The testicle may form an abdominal, pro-peritoneal or intra-inguinal ectopia; or the testicle may have passed through the external inguinal ring but does not descend to the bottom of the bursa. In this case, no matter what the position of the testicle may be, a large scrotal hernia can occur. The vagino-peritoneal cul-de-sac may enter into the bursa which is destined to receive it; it remains open and offers a passage to the intestine just as if the testicle were in its normal position.

In old and large congenital herniæ the serous canal is enlarged and distended, while its relations to the elements of the spermatic cord are no longer what they were in the beginning. The vessels are dissociated and spread out over the posterior aspect of the sac in the cellular layer which lines it, representing about the same position as in acquired hernia when occurring at the same age and of the same size.

The symptoms and complications of congenital hernia are the same as those of acquired hernia and the diagnosis between the two is often very difficult. It is based on the age of the patient, the history of the case, the condition of the testicle and its position in relation to the tumor. A hydrocele in which the liquid can be pushed back into the abdomen demonstrates the congenital origin of the hernia. In the case in which a hernia occurs with an ectopia of the testicle one may be nearly certain that he is dealing with a congenital tumor.

We will now consider the operative treatment of these herniæ. The modern methods are the only ones which will give satisfactory results and these aim to produce a radical cure by dissection of the sac and obliteration of the ring of the hernia. What characterizes these methods is: Firstly, incision and dissection of the anatomic layers until the sac of the hernia is freely exposed; secondly, isolation of the latter in order to obliterate its ring by either ligature or suture, and, what is more often practiced and which should be practiced, the complete or partial extirpation of the sac itself; and thirdly, suppression of the peritoneal infundibulum. The latter is situated at the deep orifice of the hernia ring and is considered the principal predisposing cause of the formation or reproduction of a hernia.

The radical cure of reducible inguinal hernia can be performed with almost perfect asepsis, but in order to arrive at this result the wound

must be prevented from becoming contaminated by the multiple and various causes of infection, and in hospitals, in which everything conspires for the invasion of the microbe, we should be careful to be prepared for the struggle. Any wound that is exposed should cause fear of infection by air or by contact. Infection by air is not to be feared at present unless the room in which operation is done has already had some infectious case, but if operators are prudent with their toilet before the operation and thoroughly disinfect all instruments, dressings and material for the ligatures, an excellent result may be expected.

It is necessary to speak particularly about antisepsis and asepsis in operating for hernia, because, of all deplorable situations a physician may have to care for, a suppurating condition of an operated hernia is one of the worst. Not only do these cases take an unusually long time to recover, but the walls are weakened from the fact of a long suppuration and a recurrence of the hernia is very sure to take place on account of the large cicatrix and weak abdominal walls.

A rigorous antisepsis should be applied to the patient and he should receive a full sublimate bath. The parts should be carefully shaven and at the time of operation there should be free and prolonged use of soap, alcohol, ether and a five per cent. solution of creolin or lysol. Sublimate is a poor disinfectant of the skin for the reason that it does not penetrate the epidermis, while the two other mentioned antiseptics cause a saponification and penetrate it easily.

The first part of the operation is similar to an ordinary kelotomy; the incision is sufficiently long to expose the external ring and the entire length of the sac excepting at the lower part of the scrotum. Cut through the tissues layer by layer, until the sac of the hernia is exposed and while cutting ligate each vessel with silk or catgut in order to have a complete hemostasis. When the sac is exposed it should be incised with precaution so that the cavity can be explored with the finger and with the eye, in order to ascertain whether there are adhesions existing between it and its contents.

In large inguino-scrotal hernia, whether it be congenital or acquired, the bottom of the sac is always intimately related to the vaginal membrane, consequently the incision should not extend down to the bottom because the risk of injuring this serous membrane is great.

If asepsis is perfect an accident of this kind will not lead to anything very serious, but it is better avoided, and in order to do so traction should be exercised by the hands of an assistant on the corresponding testicle when the sac is incised. If by chance the vaginal membrane is cut into a few sutures placed in its borders will be sufficient to completely occlude it.

The Trendelberg position is of value at this point of the operation because it is a good thing to reduce the contents of the sac into the abdominal cavity and this is often difficult to do unless the patient's body is lowered, since while trying to push the large mass upwards with one hand, the intestinal loops will slip from under the fingers, rendering reduction very long and difficult. The inclined position facilitates the reduction very much and it is often accomplished in cases where otherwise it could not have been obtained.

When reduction is accomplished an aseptic tampon is placed on the abdominal opening of the sac, and the operation, properly speaking, now begins. First do away with the peritoneal surface by complete extirpation of the serous membrane of the sac, extending up to the peritoneal infundibulum, which is the principal factor in the reproduction of hernia. When this is accomplished, it is necessary to create, at the point of exit of the hernia, a supporting surface which will bear the pressure of the intestine and this is accomplished by reinforcing the weak point that is present in the abdominal wall at this point.

In order to properly dissect out the sac, the borders of the incision are seized with artery clips and held by an assistant who draws them outwards. The freeing of the lower part of the sac usually does not present much difficulty but this increases in proceeding upwards towards the pedicle of the hernia.

If one should try to isolate the sac by a rapid dissection at this point, it could only be accomplished by causing a flow of blood which would prevent the operator from seeing what he is doing and thus causing him to run the risk of injuring the elements of the spermatic cord. Nevertheless he will always be able, by a very careful dissection, to isolate the serous membrane which covers the external aspect of the sac, removing, if necessary, inch by inch, by strips, but without getting lost in the outer fibrous layers. This dissection is especially necessary in congenital hernia and should be conducted from below upwards, drawing the sac downwards as the upper part of the hernia is approached.

It would be extremely difficult to go upwards in this way to expose the peritoneal infundibulum, if, when the deep inguinal ring was reached, the peritoneum could not be drawn down with considerable ease; but this is usually the case on account of the great laxity of the cellular layers and the fatty tissues which separate it from the deep surface of the abdominal aponeuroses. This act is rendered easy by stripping the peritoneum of the aponeuroses around the deep inguinal ring with the finger. It will then be possible to draw some of the serous membrane outwards sufficiently to be able to place a ligature above the sac on the abdominal peritoneum properly speaking, and thus completely doing away with the peritoneal infundi-

bulum which is found at the deep inguinal orifice.

In order to make an occlusion of the peritoneum, the serous sac, isolated and pedunculated with care, whether in whole or in strips should be pulled downwards with a pair of forceps; then on the highest point of the pedicle the ligature should be placed, and this should be drawn extremely tight in order that it may not slip. As the sac is generally very large, as well as the pedicle, it is better to employ five or six crossed ligatures introduced by a blunt needle which is pushed through the pedicle in its middle. It seems better to always cross the ligatures in such a manner that no space is left between them. The material for ligatures may be either silk or catgut, but personally I prefer the former. When the ligatures are in place and cut, the sac is cut transversely below the ligature and the pedicle will immediately slide up into the abdomen. After this the peripheral portion of the sac is to be extirpated.

In order to avoid a relapse, the abdominal wall which has become weakened by the prolonged passage of the hernia must be strengthened, and in order to accomplish this, the soft parts must be brought together, at the point where formerly the neck of the sac existed, by one or several deep sutures which should comprise the external and internal inguinal pillars.

The operation is concluded by suturing the cutaneous incision and placing a drain at the bottom of the scrotum. Some surgeons are afraid that by drainage a recurrence of the hernia may take place and close the wound without drainage, but I advise the contrary in the cure of large inguino-scrotal hernia. After such an operation there is an extensive raw surface and a large number of vessels have been cut, and although after the operation hemostasis may appear complete, a sero-sangineous secretion, as well as hemorrhage, may occur in the first few hours following the interference. The hemorrhage is not serious and will stop of itself, but if a large drain has not been inserted at the lower angle of the wound, the blood will collect and thus give rise to a hematoma.

If the operation has been done aseptically and the wound remains aseptic, which is another affair, because it may be infected if aseptic precautions are not taken when changing the dressings, this intra-scrotal hemorrhage is without danger but naturally convalescence is less rapid. But in this region, which is so near the anus and urethra, an absolute asepsis is difficult to obtain, all the more so because it is hard to apply dressings that will remain in place for any length of time. The patient is consequently easily infected if there is a retention of the exudation.

In order to avoid these hemorrhages and to have a union by first intention of the entire raw surface and borders of the wound as well, suture the wound in such a manner as to close up the cavity of the scrotum by uniting the internal surfaces of the pocket together. A drain is also inserted at the end of the operation. A large curved needle, with a long piece of silk suture, is passed through one centimeter underneath the skin so that the latter is not included and then pushed through the tissues of the scrotum without including the external integument in the suture. Catch the tissues by continuing this running suture until the edges are included in their entire length and then by pulling on the ends of the silk, the raw surfaces are brought together like a purse.

The incision is covered with some antiseptic powder such as bismuth benzoate, iodol or bismuth subgallate. A very good powder frequently used for covering aseptic wounds, and which can be recommended is as follows:

℞ Bismuth, benzoat.
Bismuth, subgallat.
Salol.....aa equal parts
M. S. For external use.

Over the powder a thick pad of carbolized or iodized gauze is placed and then a thick padding of sterile cotton, which should cover the lower part of the abdomen and upper part of the thigh. A spica bandage holds the dressing in place and should be applied so as to exercise a firm compression on the scrotum and inguinal region.

Considering now the question of irreducible hernia, we would first speak of the manner in which we deal with an epiplocele. When the sac contains a certain amount of mesentery which cannot be pushed back into the abdomen, either on account of its size, consistency or shape, or because of adhesions that it has contracted with the internal aspect of the sac, we resect it before extirpating the serous membrane.

The omentum may be intimately adherent to the internal aspect of the neck of the sac, but by carefully drawing it down it may be freed. By doing this it can be drawn out more from the abdomen and it is on the latter portion that the ligature is placed. If there is a large amount of omentum, several pedicles should be made and each one ligated separately. It is always well to excise any mesentery, whether adherent or not, that is found in the sac.

When the intestine is adherent a far more serious condition is present than in the case in which omentum is present. The adhesions binding the gut are of old date, fibrous, very narrow and may be very vascular. Now, if dissection is attempted, tearing the intestine is pretty sure to follow, or if this does not occur, the gut presents a bleeding surface when it is reduced into the abdomen. It consequently is better to leave some of the adherent serous membrane on the intestine and reduce it along with the gut. Socin, of Bale, and Lucas Championniere cut out as thin as is possible, bands of the sac which correspond to the adhesions and then reduce the gut.

Many ways have been described for the obliteration of the sac. The first is Barker's method. The neck of the sac is tied off as high up as possible and then successively both ends of the ligature in the eye of a Deschamp needle are introduced. Now pass this from behind forwards, very high up, one through the external wall, the other through the internal wall of the deep inguinal ring; both are then tied in front of the great oblique muscle.

The second method is due to MacEwen. The sac is isolated and then folded on itself several times. It is next traversed from base to neck by a ligature, one end of which is tied at the bottom of the sac. The ligature is then passed through the opposite faces of the sac, keeping the former folded by pulling on the free end of the silk. The sac is thus made into a solid plug, which is kept in place above the deep inguinal ring by a knot tied above the aponeuroses of the great oblique muscle.

Two important facts predominate in the radical treatment of the vagino-peritoneal variety of congenital hernia with ectopia of the testicle. First are the adhesions of the vagino-peritoneal sac with the surrounding parts, especially the elements of the spermatic cord. The vas deferens ens is intimately united to the sac and is found behind and slightly outwards, but occasionally it may be contained within the latter. Second is the position of the testicle which is either in the scrotum, the vaginal membrane communicating with the peritoneum, or in ectopia.

In operating on a peritoneo-funicular hernia, the method to be followed is the same as that for the radical treatment of the acquired types. That is to say, the serous canal is extirpated and the pedicle ligated.

For vagino-peritoneal testicular herniæ, which are the most common, the operation is the same, but with this difference that the lower part of the peritoneal prolongation is to be preserved in its testicular region. The borders are to be sutured over the testicle by catgut, thus forming a new vaginal tunic.

When dealing with an ectopia of the seminal gland, the organ is situated in the tract of the hernia and adherent. Here there is only one thing to be done and that is to remove the organ. On the contrary when the testicle can be pushed down and it is not atrophied, it may be sutured to the bottom of the scrotum and a vaginal tunic may be given it by employing some of the serous membrane for this purpose while what is left of the latter after this has been done should be resected as in the ordinary operation for radical treatment of hernia.

The testicle should be removed when it is atrophied or considerably smaller than normal as well as in cases in which by keeping it, a radical cure by operation is impossible or difficult of execution.

THIOSINAMIN IN OPHTHALMOLOGY.

WILLIAM RUOFF, M.D., PHILADELPHIA.

While thiosinamin is not a new drug, it has only recently been brought prominently forward by the successful experiments of Tousey, of New York. Its uses bid fair to become more and more extended as its therapeusis becomes more clear.

Fully described by Berzelius as early as 1828, and Streeker, 1857, also Fowne, Hebra was the pioneer in its practical application. Its physiology and bacteriology were exhaustively studied by him. Hebra used it in lupus vulgaris and tuberculosis, gaining encouraging results in the former, but having only disappointment in the latter. Tousey, of New York, brought to light a new and gratifying use, *i. e.*, in the treatment of keloids. His experiments and results are very encouraging.

Thiosinamin occurs in colorless, rhambic crystals, having a faint garlicky odor, and bitter taste. It is soluble in water, alcohol and ether. Hebra gives the following excellent description: It is an allyl sulpho carbamide, made by mixing two parts oil of (black) mustard seed with one part of absolute alcohol, and seven parts of aqua ammonia sp. gr. 0.960, warming to 104° F., and after a few hours evaporating over a water bath. The odor of mustard and ammonia disappear, and on cooling, the precipitate of crystals of thiosinamin are seen. The following is the result of analysis, showing thiosinamin to be of the same chemical group as urea:

$$\text{Urea is } CO. \quad \begin{cases} NH_2 \\ NH_2 \end{cases}$$

$$\text{Thiosinamin } CS. \begin{cases} NH\,C_3\,H_5 \\ NH_2 \end{cases}$$

Thus the oxygen has been replaced by sulphur in the carboxyl, and one atom of H by the allyl radicle in the amin group. It is not stable in aqueous solutions.

Hebra's method of use was a hypodermic solution of fifteen per cent. strength in alcohol and water. The beginning dose was one-half to three-fourths grains twice weekly, and this was gradually increasing to two and one-half and three grains. Tousey (*N. Y. Med. Jour.*) gave same doses. Suker (Ohio) exceeded these bounds, giving three grains daily, and in some cases ascending doses by mouth. I have not used it other than hypodermically so I cannot speak upon the results when given internally. My own experiments were with beginning small dose, one-half to three-fourths grains in alcohol and water, or glycerin and water, and rapidly increasing the dose to three grains thrice weekly. At no time was there any deleterious effect produced.

If given in the loose tissue of back, local anesthesia (slight) followed by numbness and partial paralysis of arm has been noted, but this result was only temporary, disappearing in short

time. In a few cases a garlicky taste in mouth has been noted, but others have not complained of this phenomenon. Profuse diuresis has also been observed. The effect of the drug upon the general body health has been most happy, among good results being increase in weight, improved appetite, disappearance of skin eruptions, and in two of my cases a stimulating of cardiac action, insomuch that in one case functional disturbance (mitral) wholly disappeared after three months' treatment. Another cardiac lesion, also mitral, decidedly improved. I may venture to say that this was not due to the direct action of thiosimanin upon the heart muscles but that it was secondary to general physical improvement.

My experience with thiosinamin is limited to five cases—two decidedly improved, one slightly so and the remainder still under treatment. The following case shows result in opacity of cornea:

Katie S——, æt. 15, weigher of wool in mill, has inherited specific history. She had measles when ten years old, this was followed by sore eyes for several months. She complained of failing vision and is unable to see markings upon scale. She has no headache. Her general condition is poor, with loss of appetite, and malaise. Her arms and back are studded with furuncles. There is a systolic cardiac murmur.

O. D. Smyd, $^{5}/_{30}$. Eye quiet, with no inflammation of ocular or palpebral conjunctva. Over two-thirds of the cornea is covered with lamellar opacity, more dense centrally. The pupil reacts to light and accommodation. The iris is normal; no synechia; fundus reflect, but no details; no gross lesions; field contracted; not improved by lenses.

O. D. Smyd, $^{5}/_{40}$. Same as O. D. Leucoma more dense centrally, but better view peripherally of fundus, which was normal; not improved by lenses.

The proposition of submitting to hypodermic injection of thiosinamin was made but held under advisement. In the interim ungt. oxid flav. and hot stupes were used. Subsequently calomel was dusted on cornea for one month. At end of this time I found the following: Eye quiet; no great reactionary change from mercury treatment. Vision in O_2 same.

Thiosinamin was now used hypodermically in three-fourth grain dose in equal parts of water and glycerin, between shoulders, best nearer the left side. No great pain was complained of, nor were there any untoward symptoms for some time following.

One hour after injection, the left arm was numb and weak, and there was anesthesia surrounding the point of injection, faintness and also peculiar garlicky taste. These symptoms were subsequently verified in succeeding injections. One grain was injected and continued thrice weekly, increasing dose of thiosinamin gradually to two and two and one-half grains with great improvement in the general health and slight gain in body weight and disappearance of furuncles. After a period of three months of three injections per week of two and latterly of three grains per dose, the following condition noted:

Eyes perfectly quiet; cornea smooth and perceptibly clearer; macula thinner and less opaque; field larger; clearer view of fundus but no minute details. O. D. V. Smyd, $^{5}/_{10}$ pt. Reads No. 1 Jaeger at 6″; no improvement with lenses. O. S. Smyd ^{5}/xijss pt. No. 1 at 4″; not improved by lenses.

M. C. school girl, æt. 15 years, presents following history: Family history, negative. When nine months old patient suffered from traumatic keratitis of O_2, due to live tobacco ashes falling on eyes. Cannot see well; no headache; wore glasses for four years with no improvement; discarded same one year ago. Has vertigo and attacks of syncope. Has had rheumatism and most diseases of childhood. Mitral insufficiency exists.

O. D. Smyd, $^{5}/_{25}$. Ocular and palpebral conjunctivæ normal. Central leucoma of cornea (adherent) superficial and dumb-bell shaped; anterior chamber shallow; pupil irregular; iris caught in wound; anterior synechia; Iris reacts to light and accommodation cum mydriasis; uveal deposits on lens capsule; fundus normal; not improved by lenses.

O. S. Smyd, ^{5}/xxv. Same as O. D., less extent; not improved by lenses.

Thiosinamin injection of two grains produced syncope, due in all probability to nervousness, since subsequent injections of larger doses failed to produce a like result. After two months' treatment injection thrice weekly of two to two and one-half and three grains, the following is noted:

Marked bodily improvement; slight gain in weight; diuresis; no attack of syncope; less fatigue; freer breathing; vision improved as follows:

O. D. ^{5}/x. O. S. ^{5}/xxv; leucoma, thinner and not so dense.

Continuing injection in three-grain doses for one month, I noted:

O. D. leucoma less dense, absorption taking place from periphery; eye perfectly quiet, no inflammatory reaction. Iritic adhesions are still present and uveal deposits, seen with difficulty. Vision, ^{5}/x/-½ pt.; 50 sph. improved slightly to clearing. O. S. Same as O. D. V. ^{5}/xx; 1 sph. ^{5}/xijss pt.

The remaining cases have been improved but not sufficiently to make definite report.

It will be seen that in the course of three months' time active and decided improvement in vision has taken place, though this is noticeable as early as the second week of treatment, this rapid improvement suggests some cloudiness of the refractive media unappreciable to ophthal-

moscopic examination, which clears quickly by absorption resulting in marked and early improvement in visual acuity. Any active inflammation of cornea is a contra indication (Tousey). Independent of this the improvement in physical condition and the abeyance of cariac symptoms (though these were not cured) makes it well worth a more extensive research in other fields than ocular.

Death to the Mosquito.

Two and one-half hours are required for a mosquito to develop from its first stage, a speck resembling cholera bacteria, to its active and venomous maturity. The insect in all its phases may be instantly killed by contact with minute quantities of potash permanganate. It is claimed that one part of this substance in 1,500 of solution distributed in mosquito marshes will render the development of larvæ impossible; that a handful of permanganate will oxidize a ten-acre swamp, kill its embryo insects and keep it free from organic matter for thirty days at a cost of twenty-five cents; that with care a whole state may be kept free of insect pests at a small cost. An efficacious method is to scatter a few crystals widely apart. A single pinch of permanganate has killed all the germs in a thousand-gallon tank.

This is a subject of practical consequence to a large part of New Jersey, for if the mosquito can be suppressed it would add to the value of all property there. The belief has been generally held that the filling in of the meadows with the ashes from nearby cities would prevent the development of these pests, and the providing of a place for the ashes would be another good. It is doubtless true that the potash, which would leach from ashes, will — like a solution of the potash permanganate — render the development of insect life impossible.—*Health.*

Professional Silence.

Silence is probably the safest rule for the physician to follow in relation to secrets which come to him in his professional capacity. It may sometimes seem his duty to warn those interested, but he must be very sure of his ground before doing so. A notable instance of the dangers incident to the utilization of knowledge gained under the seal of professional secrecy was furnished in the now celebrated case of Kittson *vs.* Playfair.—*Gaillard's Medical Journal.*

It is said that the Department of Agriculture has discovered that many creameries are using an emulsion of cottonseed oil, which, added to the cream, increases the butter product per gallon of milk, with small chance of detection and a large increase of profit.—*Sanitary Inspector.*

CALUMBA AS A TONIC.

A. F. MYERS, M.D., Blooming Glen, Pa.

Looking carefully over the long list of vegetable tonics, it is a little difficult to know which particular one to select for general use. In my experience calumba has answered this purpose satisfactorily for years. It has given me the best results as a stomachic in mild forms of dyspepsia and as a general corroborant in the convalescent stage from acute diseases, acute disorders of the bowels and fevers.

Calumba is a pure, bitter tonic, without astringency and with very little aroma. It is a very agreeable tonic, mollifying in nature and particularly acceptable in all cases where there is unusual delicacy of the stomach. It is likewise peculiarly adapted to the convalescent stage of many acute disorders of the bowels and of typhoid fever.

In general debility, where a simple bitter tonic is desired, calumba is preferable. As a vegetable tonic it is not unpleasantly bitter, but has rather an agreeable taste, causing a generous flow of the saliva. In the stomach it causes increased secretions of the gastric juice; hence it excites the appetite, improves the digestive process by its local action and thereby strengthens the system generally by its influence on the cerebro-spinal center.

Being free from irritant or astringent qualities, calumba will afford relief in attacks of catarrhal inflammation of the mucous membranes of the stomach and will aid in restoring the imperfect digestion. Unlike other bitters, calumba has a soothing effect upon the hyperemic and engorged membrane and seems to act as a sedative upon the stomach, lessens the thirst and relieves the irritability. In atonic dyspepsia, it stimulates the different secretions and aids the functions of digestion and assimilation. As a tonic, calumba likewise exerts a slight hepatic influence in restoring tone to the debilitated intestinal tract.

Even in full doses the drug in no way irritates the alimentary canal; nor does it cause nausea, nor unpleasant eructations. As a vegetable tonic and general corroborant it has always yielded happy results and I think deserves more general use; hence my desire to call particular attention to this old but valuable drug.

Before setting a fracture test the sensation of the parts below to see if there is any involvement of the nerves. Then examine the arteries below the fracture to see if they are intact. Then examine the veins. Venous bleeding is the most troublesome of any; and to deal with it it is often necessary to raise the limb. Be most careful how you apply bandages, taking great care that they do not constrict the limb at any part or press on any vein.—J. A. Bloxam.

Contemporary Review.

Retained Sheath of the Hyaloid Artery.[1]

In Case I the right eye is divergent, V = 6-150. On the nasal half of the disk is a yellow mass springing from near the center of the disk, extending onto the retina in radiating lines with slight amount of pigment. This mass completely obscures the central excavation and the entrance of the central vessels. It is abundantly supplied with blood-vessels. Originating from this mass near the nasal side of the disk is a spindle-shaped body of a pale green hue extending into the vitreous about a disk diameter in length and continuing straight forward as a gray line to the nasal side of the posterior surface of the lens, where it spreads into a cone-shaped body with numerous fine hair-like projections dipping backward into the vitreous.

In addition, several small gray bodies resembling cysts, attached to the spindle-shaped mass by fine threads, are floating in the vitreous. This spindle and thread are evidently the remains of the sheath of the hyaloid artery, due, according to Hess, to an atypical embryonic development of the mesoblastic tissue from which it is derived. This patient had a positive absolute central scotoma without apparent changes in the macular region arising from congenital defects in the macular fibers. The field for form and color is irregular and contracted in the lower inner section. The left eye is normal in all respects.

In Case II there is a small transparent rod or tube running directly forward about three-fourths of a disk diameter in length, tortuous, with three small branches extending into the vitreous. Without close inspection this remnant of the hyaloid sheath could easily be overlooked.

War From a Medical View.[2]

The war will have an interest for the medical profession quite as intense as for the soldier and sailor upon whom its conduct will more directly devolve and who will be more immediately exposed to its dangers. That interest, too, will be very nearly of the same character as the interest which attaches to new fields and forms of experiment and observation. The military and naval expert looks forward with scientific curiosity and impatience to the opportunity which the coming struggle will afford to employ and test the new and improved arms and ordinance, the great armored ships with their formidable batteries as well as the dire dangers with which these floating fortresses are threatened, indeed, all the modern and novel methods of warfare offensive and defensive, by land and sea. So, also, the investigator and enthusiast in the realm of medical science and inquiry, anticipates the thorough and triumphant proof of all he has claimed for the recent progress of his profession, and even further discovery and improvement in surgery.

It is said that the missiles which will be fired from the new rifles with which the armies will be provided inflict wounds unlike to and more ghastly than any in the experience of mankind. The skill of the surgeon will be taxed to meet this new condition. Heretofore abdominal surgery in the field has been almost impossible, but with the aseptic methods now in such common employment, there should be very little less difficulty in treating successfully a wound in the abdomen received in battle—especially on shipboard—than is experienced in the ordinary cases at the hospital.

Many other kinds of wounds, which, when received in battle, were formerly deemed incurable, despite the exercise of the utmost skill and care, will now be successfully treated. While the implements of destruction have been multiplied and rendered more fatally effective, there has been like progress and melioration in the remedial agencies for the havoc of war; and the vast improvement in surgical equipment and appliances will not only do much to save life, but also to alleviate suffering. The physician and surgeon will be as actively employed as the warrior, and although the healer may not win plaudits so frequent and vociferous, his victory over death and agony may bring him a sweeter solace.

Central Amblyopia in a Dye-Worker Probably Produced by Inhalation of Anilin Dyes.[3]

The patient, a male, 53 years of age, had noticed gradually failing vision for two months. Before coming under observation there had been right facial paralysis, but recovery had been complete with the exception of a slight weakness of the orbicularis palpebrarum. There had never been diplopia, and the pupils were equal in size, four mm. in diameter, and normal in their reaction.

The patient had lost nearly all of his teeth, and there was ulceration of the buccal and nasal mucous membranes which was thought to have been produced by bichromate of potassium. There was no history of the use of alcohol, and about one ounce of mild smoking tobacco was used in a week. Specific history was denied. R. and L. = 5-12, improved to 5-5 dimly, by his correcting glasses. Accommodation normal; orthophoria.

The patient had a low grade optic neuritis and concentric contraction for form and colors. There was a large outward and upward fan-shaped central scotoma for red and green in each eye, occupying nearly a quadrant of the central area of the field.

1 Dr. Howard Mellor of Philadelphia.
2 Editorial *Louisville Medical Monthly.*
3 Dr. C. A. Veasey of Philadelphia.

The patient had worked in dye works for twelve years, and for the last seven years of this time had been a "weigher." It was his duty to weigh and dispense the different ingredients from which the dyes were mixed, and in doing so he was obliged to remain in a small room with comparatively no ventilation for two or more hours every day. There was a considerable amount of dust, consequent upon the handling of the chemicals, which kept the atmosphere "as thick as smoke," and the inhalation of this produced symptoms so severe at times that he almost choked. The following chemicals were employed: Ammonium chlorid, sodium carbonate, copper sulphate, iron sulphate, potassium bichromate, potassium chlorate, and the anilin dyes.

Inasmuch as no record could be found of any case of central amblyopia produced by any of the above chemicals, excepting the last, when there is no accompanying nephritic condition, it is argued that the anilin was probably the cause. The urinary examination in the above case was negative. After using a respirator for a while, aided by the internal administration of strychnin, the patient's visual acuity was much improved.

Sexual Origin of Neurasthenia and Psychoneurosis.[4]

Sigmund Freud announced a while ago that every case of psychoneurosis, fixed ideas, etc., had for its predisposing cause some abnormal occurrence in the sexual life before the age of eight years, consciously or unconsciously remembered. He now asserts that every case of neurasthenia has a similar basis, some abnormal occurrence or occurrences in the sexual life of the patient at the present time or since puberty. He scouts the idea that mental overwork or excess of household cares can alone induce neurasthenia, although any depressing factor may favor its development. He even insists that absorbing occupations, especially intellectual, protect against the evolution of neurasthenic affections. He divides them into:

1. Neurasthenia proper, which he claims can always be traced to excessive masturbation, unnatural sexual intercourse, etc.

2. "Anxiety neurasthenia," distinguished by dread, restlessness, agoraphobia, vertigo in walking, sleeplessness, etc.

The latter form, he states, can also invariably be traced to sexual influences in the nature of unsatisfied impulses, coitus interruptus, abstinence with inflamed desires, etc.

He protests against the prevailing hypocrisy in regard to sexual matters, and urges the physician to assume an abnormal sexual life as his guiding star in the etiology of neurasthenia, as this alone will help him to treat it rationally, after winning his patient's confidence. In cases absolutely impossible to trace to any abnormal sexual occurrences, he decides that the affection is not neurasthenia, and by eliminating this conception he has discovered unsuspected local affections, in one instance a latent suppuration in one of the accessory nasal cavities, which had only produced neurasthenic symptoms, entirely cured by an operation.

4 SIGMUND FREUD, in *Wien. klin. Woch.*, 1898, Nos. 2, 4, 5 and 7.

Foreign Bodies Located by X-rays and Removed by the Magnet.[5]

In Dr. Love's case the patient was struck in the left eye with a fragment of a rivet while chopping old iron. The upper lid was cut through, the conjunctiva edematous, the sclera and cornea incised, the vitreous protruded, the iris prolapsed, the aqueous was turbid, and the ciliary region was tender on pressure. The vision equaled faint light perception, and all fundus reflex was lost. The body was located in the upper portion of the ball just back of the equator by Dr. William M. Sweet in a series of skiagraphs.

Under ether and antisepsis an attempt was made to reach the body with a Hirschberg magnet, the old wound being enlarged for this purpose. After several failures, because of inflammatory exudations, the attempt was abandoned. A large amount of thin, bloody serum poured from the globe during the operation, so that the ball almost collapsed. The following day the globe had regained its shape and the eye appeared in good condition.

The patient was again sent to Dr. Sweet who reported that the foreign body was in the same position as when the first skiagraphs were taken. Two days later another effort to extract with the magnet was made through an opening made at the equator just under the indicated location. After several attempts the fragment of iron was finally removed. The patient experienced little pain, and the wound healed readily leaving the globe in fairly good condition.

Dr. Love exhibited a second case, similar in many respects. A man was struck in the right eye with a small piece of steel, as he thinks, while trying to knock a hoop from a cask with a chisel. There is a scar on the cornea to the nasal side and in the inferior quadrant, and the anterior chamber is slightly shallowed.

The foreign body penetrated the cornea in the lower nasal quadrant and passed through the iris leaving an oval horizontal hole in the tissue about one mm. in diameter. Tension is normal, and the eye is white and quiet. Atropin dilated the pupil fully and evenly. The capsule showed the star-shaped entrance of the foreign body and a small collection of rust, and the lens was opaque. With the ophthalmoscope a small portion inferiorly of the eye ground could be made out, but the foreign body could not be seen.

5 DR. LOUIS F. LOVE and DR. GEO. DESCHWEINITZ of Philadelphia.

Since the injury the patient states that the left eye is irritable and that the sight is diminished, but I fail to find any evidence of sympathetic irritation. From the old and rusty chisel a piece of the steel about the size of wound in the iris had been chipped off from its end. Several skiagraphs were taken by Dr. Sweet, but the foreign body cast no shadows and could not be located.

Dr. deSchweinits reported a case in which the steel had penetrated near the center of the cornea, passed through the lens and rendered the media so opaque that ophthalmoscopic examination was impossible; indeed the lens had already become entirely cataractous. A radiographic examination by Dr. Sweet indicated a piece of metal about three mm. long and one mm. wide situated three mm. behind the horizontal plane of the globe, nearly two mm. to the nasal side and 23 mm. back of the center of the cornea.

An incision was made through the sclera just below the lower margin of the external rectus, and the broad, flat extension point of a Hirschberg magnet introduced for fifteen mm., so as to bring it as nearly as could be calculated over the position of the macula. On withdrawing the extension point, a piece of steel of triangular shape, of the size indicated and weighing one-seventh of a grain was found adherent to it. The scleral wound was closed with catgut sutures and the conjunctiva with interrupted silk sutures.

Three weeks after the operation the eye was still much injected and the tension raised owing to swelling of the lenticular body. The light perception, however, is good in all portions of the field, and under treatment this condition appears to be subsiding, although the likelihood of later enucleation is not remote.

Eels' Serum and the Red Corpuscles.[6]

The serum of eels' blood is possessed of many remarkable properties. Not only does it immunize against the poison of the viper, but it has been found to exert a singularly destructive action on the red corpuscles, an action which is as pronounced *in vitro* as in the living animal. Not less curious is the fact that blood of the hedgehog resists this disintegrating action, and, as a corollary, eel serum, which is so toxic to most mammifers, is but slightly so to this rodent. Drs. Gley and Camus have succeeded in immunizing rabbits against toxic effects of the serum, and they noted that when this immunity has been conferred, the blood of the protected rabbits no longer undergoes disintegration when subjected to the influence of the serum; in other words, the red corpuscles of the rabbit had acquired the resistance which is natural to those of the hedgehog. Going a step further they found that the serum of the protected rabbits conferred a similar immunity when inoculated in other rabbits. These interesting observations open up a wide field of therapeutic possibilities, for many organic poisons owe their lethal properties to their action on the red corpuscles of the blood, and it is quite conceivable that this immunizing process may be capable of indefinite extension in which human therapeusis may have a share.

6 EDITORIAL *Medical Press and Circular.*

Illumination by Direct Sunlight for Ophthalmoscopic Examination.[7]

The fear of injury to the retina from such an illumination was not well grounded. Practically, the only cases injured by concentrated sunlight are those in which the sun has been steadily looked at for many seconds or even minutes, as during an eclipse. And in many of these no visible changes occur in the retina, and ultimately normal vision is regained. The method is of value chiefly when the haziness of the media prevents a view of the fundus by ordinary illumination. In such cases the diffusion of light by an unclear medium prevents any possibility of its injurious concentration on the retina. Such illumination had been the greatest value in revealing the presence or absence of suspected intra-ocular tumors and the condition of the vitreous and fundus in cases of diffuse partial opacity of the crystalline lens and cornea.

Microphthalmos With Excessive Hyperopia and Macular Anomalies.[8]

The cases reported occurred in tnree sisters aged 10, 8, and 4, respectively. Two other children aged 6 and 2 years were immune. The physical and ophthalmoscopic appearances, likewise the history of both parents were absolutely negative. The clinical features were so similar that only the oldest girl's eyes were described, as follows: A. B., æt. 10, healthy, well-nourished, had alternating convergent squint since her third year. She had worn + 5 D. for six years without effect on her squint. Both globes were small and deep set, the palpebral conjunctivæ injected, and the anterior chambers shallow. The radii of corneal curvature were: R. E. 6.84 mm; L. E. 6.83 mm. Both optic nerves were healthy, but in the macular and perimacular regions was found a dull gray area about one disk's diameter in extent, homogeneously granular in appearance and emitting no macular reflex. This area shaded off almost insensibly into the surrounding retina, exhibited no pigment heapings or streaks anywhere, and was skirted below and to the nasal side by a few small yellowish bodies, suggestive of the degeneration bodies seen in albuminuric retinitis.

The refraction with the shadow test was: R. E. + 14.75 D. S. () + 1.00 D. Cyl. Ax. 70°. L. E. + 13.00 D. S. () + 1.50 D. Cyl. Ax. 90°.

7 EDWARD JACKSON, M. D., of Philadelphia.
8 WENDELL REBER, M. D., before Philadelphia College of Physicians and Surgeons.

In the eight-year-old child the radii of corneal curvature were: R. E. 7.07 mm. L. E. 7.10 mm. Shadow test of her eyes showed: R. E. + 11.50 D. S. () + 1.00 D. Cyl. Ax. 80°. L. E. + 11.00 D. S. () + 1.00 D. Cyl. Ax. 1.00°. Shadow test of the four-year-old child's showed: R. E. + 13.00 D. S. () + 1.00 D. Cyl. Ax. 90°. L. E. + 13.00 D. S. () + 1.50 D. Cyl. Ax. 90°.

The absence of all signs of pre-existing inflammation, together with the congenital malformation of the globes in all of the cases, constrained the author to believe in the congenital origin of the macular conditions and that they in all likelihood represented an arrest of development.

The Diagnostic Value of Pain in Infancy.[9]

In a paper on conditions of diagnostic value in infancy and childhood, the author refers particularly to pain. He believes that it is in the face that pain finds immediate expression, and when considered in connection with the cry, the origin of the pain can frequently be detected. The cry is always an expression of uneasiness or of some departure from health. When pain is the cause there is a contraction of the features and an uneasy movement of limbs and body. Violent and obstinate crying, sometimes lasting for hours, usually indicates earache, hunger, thirst, the presence of a pin, or an undetected inflammatory rheumatic joint. The restlessness and fretful cry occurring at night in an apparently healthy and well-fed baby, may be due to a hard mattress and be entirely overcome by allowing the child to rest upon a large, soft pillow.

Sudden abdominal pain with vomiting and either constipation or small bloody mucous stools occurring in a previously healthy child, and even without the presence of a distinct abdominal tumor, is not unlikely due to acute intussusception, the absence of blood either before or after intestinal irrigation usually being sufficient to diagnosticate the condition from appendicitis. The cry of thirst is usually constant and is immediately relieved by more liquid. The cry from pain in the head is sharp and sudden. The pain of pneumonia and pleurisy occasions a cry usually during coughing and for a short time afterward, and in pleurisy by pressure on the affected side. Tears are not usually secreted until about the third month. Their suppression during an illness is considered an indication of danger, while their reappearance is thought to be a favorable sign. In most of the fevers and diseases of general excitement, the face will be suffused or red, except when the onset has been sudden and attended with violent shock, when it is paler than usual, and assumes a dead white color. This may occur in pneumonia and bronchitis.

In chronic and enfeebled conditions the face has a waxy hue, and in disorders of digestion a sallow or muddy appearance, associated at times with a distinctly yellow color. Malformations of the lungs or heart result in producing a cyanotic appearance of the face, as does also any interference with respiratory action.

The function of sleep is one which is quickly affected by even a slight departure from health. Slight fever, pressure from a tooth, undigested food, hunger, thirst, or colicky pains are among the simpler causes of this disturbance. Graver conditions result in greater disturbance, so that the range of restlessness may be anything from simple tumbling in bed without waking to complete wakefulness. The predisposition existing in young children to the formation of small acute collections of pus, not always superficially located, results frequently in many nights of wakefulness, pain and crying.

The position which a healthy child assumes during sleep is usually one of quiet on the side or back. In illness this varies greatly according to the disease. In pulmonary disorders it prefers to have the head elevated, and in very young children a frequent change of position is not only grateful but is also of considerable therapeutic value. In acute serous inflammations the position is associated with special flexions peculiar to the disease, a cry resulting from any attempt to change it. An examination of the body and skin reveals not only the presence or absence of fever, moisture, or dryness, but also its color, presence of eruptions, swellings, edema, inflammations, tumors, emaciation or plumpness, spinal irregularities, and diseases of joints.

The Treatment of Inoperable Sarcoma by Coley's Fluid.[10]

Ten cases of Inoperable Sarcomata under my care have been treated by means of Coley's fluid, the mixed toxins of the streptococcus of erysipelas and the bacillus prodigiosus. In three of these the tumors have disappeared, and there had been no recurrence. In another the original growth (a spindle-celled sarcoma of the superior maxilla) is entirely absorbed, but meanwhile a secondary growth developed in the head of the tibia; and in a fifth the tumor, which was a slowly growing fibro-sarcoma, diminished in size, but only for a while. Of the remaining five, two, a recurrent carcinoma of the breast, and a lympho-sarcoma of the neck, were not benefited in the least. A third refused further treatment after two injections, and two had died.

Mr. Moullin also gave an account of some cases in which malignant growths had disappeared after attacks of erysipelas, and quoted Dr. Coley's statistics of the results of his method of treatment in his own hands. After considering the pathologic changes that had been observed in some of the tumors, and the results that

9 FRANK W. SHAW, M. D., in the *Brooklyn Medical Journal*. (*Pediatrics.*)

10 C. W. MANSELL MOULLIN, F. R. C. S., in the *Medical Press and Circular*.

have been obtained by other observers, the author suggested that the following conclusions (although some of them may require modification later on) were justified by the facts brought forward:

1. It cannot be denied that there is a considerable number of cases in which sarcomata that had been given up as hopeless, often after repeated operations, have absolutely and entirely disappeared under this method of treatment. There is no other method of treatment, except inoculation with the streptococcus of erysipelas itself, of which nothing can be said.

2. Some of these cases have remained free from recurrence for upwards of three years, the period which in the case of excision of the breast for scirrhus is regarded by many operators as justifying the use of the term cured.

3. Several of the cases in which sarcomata have disappeared after an attack of erysipelas have remained free from recurrence for seven years and upwards.

4. The fact that there may be a few, a very few, cases recorded in which sarcomata have disappeared, either spontaneously, or after such diseases as acute specific fevers, has nothing to do with these conclusions. (The statement that sarcomata do occasionally disappear is repeated with great regularity, but well authenticated cases in which this has taken place, verified in the way in which Dr. Coley's have been verified, are very difficult to find.)

5. Nor are these conclusions in any way invalidated by the fact that injections of the mixed toxins are sometimes followed by the disappearance of other growths, such as lupus, keloid, syphilitic deposits, carcinomata, etc. It may make the disappearance of sarcomata more difficult to understand, but it in no way disproves it.

6. The proportion of cases of sarcomata that are cured by the injections depends, among other things, upon the histologic character of the growths. Spindle-celled sarcomata are by far the most successful. This suggests the conclusion that the mixed toxins have a selective action, even if it is not specific.

7. The disappearance of sarcomata is not due to inflammation, but to an intensely rapid form of fatty degeneration, comparable only to that which affects the hepatic cells in acute yellow atrophy of the liver. Inflammation and sloughing, when they do occur, are septic complications.

8. Degeneration and absorption may occur whether the toxins are injected directly into the tumor, or into some distant part of the body. In the former case, however, the effect is more rapid and the constitutional symptoms more severe.

9. The method is attended by a considerable amount of risk. It should, therefore, only be adopted in those cases for which there is no other remedy. The chief danger appears to be from collapse and pyemia. There must always be danger of the latter if there is a suppurating or sloughing sore. It may be argued that patients whose lives are immediately threatened by a malignant growth will never be cured by any remedy that does not involve some degree of risk.

10. The toxins are no use, unless the cultures are taken from a virulent case of erysipelas or are made virulent by passing the streptococcus through rabbits.

11. The bacillus prodigiosus, in spite of theoretic objections, has the effect of immensely increasing the reaction.

12. The effect is most striking in the case of rapidly growing sarcomata. Slowly growing ones appear to have much more resistance. Probably this merely means that masses of embryonic cells with little organization give way to injurious influences more rapidly than those that are more closely knit together.

13. Patients often gain in weight and strength while under treatment.

14. Treatment should be continued until the whole growth has vanished, or it has become so small that it can be removed.

15. If there is a recrudescence of the disease, it does not follow that the toxins will be as efficacious the second time as they were the first. Whether this is the result of tolerance being established cannot be said.

16. Recurrence may take place in other parts of the body after many years.

17. The severity of the reaction is very variable. Probably this depends upon the rapidity with which the injection is absorbed, rather than upon any cumulative action it may possess.

New Facts Relating to Starch Digestion.[11]

A recent German authority on the feeding of young children calls attention to the fact that the starch of the potato is more easily digested than the starch of wheat and other cereals. This statement is so much at variance with the established ideas respecting the comparative digestibility of vegetable and cereal starches that we felt quite incredulous, and so outlined a series of experiments to be conducted for the purpose of obtaining definite and reliable information upon the subject.

Potato starch, corn starch, wheat starch, and oatmeal starch were submitted to the test of artificial digestion. In the experiments made, a given quantity of each variety of starch was submitted to the action of a given quantity of saliva, the exact time required for the complete digestion of the starch being carefully noted. The saliva was obtained from eight different persons, and each variety of starch, carefully cooked, was subjected to the action of each person's saliva. As the result of these experiments, it was found

11 EDITORIAL in *Good Health*.

that in every instance, except in one in which an evident error occurred, potato starch was digested much more quickly than starch of any other variety, it being digested in one-half the time of the corn or wheat starch. The average time for potato, corn and wheat starch was as follows: For potato starch, 1.6 minutes; for corn starch, 2.6 minutes; for wheat starch, 2.7 minutes. Only two experiments were made with the oatmeal starch. In one of these thirty minutes were required for the complete conversion; in the other fifteen minutes. The same saliva digested an equal amount of potato starch in two minutes in one case, and in fifty seconds in the other. The same saliva that digested oatmeal starch in thirty minutes digested an equal amount of corn starch in three minutes, and the saliva that digested the oatmeal starch in fifteen minutes completely converted the same quantity of corn starch in one minute.

From these experiments there are two facts apparent: First, that the oat is the least easily digestible of the three most commonly used cereals; and second, that the current opinion regarding the indigestibility of the potato is without actual scientific foundation.

It must be remembered, however, that for the same reason, vegetables and fruits are not readily digested together by persons whose digestion is slow, for the reason that vegetables contain a considerable amount of woody matter which interferes with their prompt and thorough disintegration in the stomach, so that they are too long retained, and thus fermentation is set up, and is encouraged by the saccharine juices of the fruits.

Ovariotomy in a Child 33 Months Old.[12]

The following is I think one of the rarest, if not the only case, of ovarian tumor of its kind, yet recorded in so young a person, and removed by operation.

November 15, 1895, I was called in consultation to see a female child, U. F. J., aged 28 months. Her previous history was good, and up to this time she was apparently in the best of health. She was a delicately built child, but well nourished. On Thursday, nine days previous to my first visit, she complained for the first time, for two hours, of a pain in the abdomen. So soon as the pain ceased she appeared well, until the following Sunday, when she began complaining again of the pain in the abdomen. Tuesday the abdomen began to swell and fever developed. At my first visit the child appeared very sick. Its looks indicated suffering pain. Temperature was 103, pulse 135; respirations were hurried and shallow. The stomach was so irritable it could not retain anything. The bowels had not been moved for several days. The child's abdomen seemed to be distended as large as the skin would allow it. There was a very perceptible fullness and hardness of the abdomen on the left side. There was a dullness, extending from the left ilium in front well up to the ribs, and curving around to the right of the umbilicus some two inches and then curving a little to the right of the pubic symphysis, and down to that bone. To the right, and above this dull limit, there was tympanites. It was impossible to make a diagnosis. Our treatment was hot applications to the abdomen and small doses of calomel, repeated every two hours. The bowels moved the next day, stomach became less irritable, and could retain some lime water and milk. The action of the kidneys was normal. After several days treatment with poultices to the abdomen, and such medicines as were indicated to relieve existing conditions as much as possible, the child gradually improved, so that by the middle of December she was much better and able to be around the house. By the last of December she was considered by her parents and the family physician to have fully recovered. In the early part of February the mother of the child was in town and called at my office to ask me whether I thought it possible that the sickness the child had had in November was caused by the child's changes coming on her, for she said there had been a discharge of blood from the vagina at stated periods ever since; that it looked like menstrual discharge; that the child's breasts were enlarged, and that there was marked development of the external genitalia. Considering the youth of the child, I could not think it possible, but suggested that the discharge was probably from an abscess, the result of the inflammation in the abdomen, which the child had so lately had.

Two months later the parents brought the child to me stating that, about three weeks previous, it had again commenced complaining with pain in the abdomen, and the abdomen had begun to enlarge. The mother stated that previous to this they thought the child had fully recovered from its sickness of last November, except that since that time she had noticed some slight fullness and hardness in the abdomen over where the seat of the inflammation was. Since recovering from its sickness of last November there had been, as above stated, discharges of blood from the vagina at times, which its mother said resembles the menstrual discharges of a woman. The first discharge was December 10, lasting two days; again January 24, lasting three days; then on February 4, for one day, and again on March 3, for two days. The child was now quite a little past 32 months old. She was somewhat anemic; her face had an anxious expression; features were pinched, pulse was 120, temperature normal; the mammary glands were very much enlarged, and the nipples even were prominent. The mons veneris was remarkably devel-

12 C. S. HOFFMAN, M. D., in Transactions West Virginia State Medical Society

oped, and the abdomen was very much enlarged. Under the influence of an anesthetic it was easily determined that the enlargement in the abdominal cavity was due to a tumor which contained liquid. The enlargement was principally on the left side, beginning low down in the pelvis, and extending up to the ribs, and three inches to the right of the umbilicus.

The diagnosis was an ovarian tumor, and from the condition of the patient and the rapid development of the tumor, an early operation was advised. In one week the parents returned with the child for operation. Her condition became much worse; pulse was 135, temperature 101½, and some cough, and slight bronchitis were present. The distension of the abdomen was very great and interfered much with respiration. The stomach was very irritable, not retaining sufficient nourishment.

For nine days I gave the patient my closest attention, hoping to improve her condition for operation, but she was rapidly getting worse, so I decided to operate, as the only means of giving the little one a chance for her life. April 18, with the assistance of Drs. Wiley and Spear of Cumberland, Kalbaugh of Piedmont, Hoffman of Thomas, and Keys of this place, I removed a tumor, which contained from six to eight pints of liquid, besides a fleshy mass which weighed two and one-half pounds, making in all a tumor weighing probably from eight to ten pounds. There was an extensive adhesion of the tumor in front and to the left side of the abdomen. The pedicle was between two and three inches long, and was attached to the left ovary. There was comparatively no bleeding. The abdominal incision was three and three-quarter inches long. When I went to tie the pedicle, I was surprised to find the womb enlarged to near the size of the non-pregnant womb of an adult. The patient was under the anesthetic just fifty-five minutes. A considerable portion of this time, however, was consumed in preparing the abdomen for operation, as she was so restless and fretful that this could not be done before. Twice the operation had to be suspended on account of the threatened collapse of the patient. The patient rallied so well from the operation that we all felt hopeful of the result, but the irritability of the stomach, which was so troublesome before the operation, now became more persistent, and in her weakened condition she died from exhaustion, having survived the operation 33 hours. A microscopic examination of the tumor indicated it to be a cystic sarcoma.

Ovarian tumors in children are very rare. Cases have been recorded, however, of ovarian cysts in the fetus. The most common are the dermoid. A careful search of the literature on the subject shows that up to the present the operation for extirpation of ovarian tumors in children has been performed only three times on children younger than my patient, and then the operation has been done for the removal of dermoid cysts. Bland Sutton, in his work on "Surgical Diseases of the Ovaries and Fallopian Tubes," refers to a case reported by Keister, where a child twenty months old was successfully operated on for removal of a dermoid cyst. He also refers to a case, reported by J. H. Hooks, of ovariotomy for dermoid cyst in a child thirty months old. The operation was followed by death. Mourier refers to a case reported by Pean of the successful removal of a dermoid from a child two years old. Neville reports the removal of a dermoid from a child thirty-three months old. This was followed by death. Neville's case was about the same age as mine. All these operations were for the removal of dermoid cysts, while the microscopic examination revealed mine to be a cystic sarcoma. As there are no other cases reported of a similar nature, you can, I believe, rightly infer that this was one of great rarity. Dermoid tumors usually are small and seldom occasion trouble until puberty, while mine was of large proportions and very rapid of growth.

The Neuron.[13]

The present estimate of the nervous system is to call the essential factors—cells, processes (dendrites) and nerves, *neurons*. An individual *neuron* is a cell and its dendrites, one of which is continuous as the axis-cylinder of a nerve, and is called a *neuraxon*, which for the most part terminates in a brush-like expansion, never in another nerve cell. *These parts constitute an individual nerve unit.* The entire structure of the nervous system is built of these *nerve units*, it matters not if it is the brain, spinal marrow or the subsidiary nerve centers; whether it is the commisural, motor or sensory department. The blood vessels and lymphatics that administer to nerve organs are united with fine interstitial areolar tissue, but the histological cement of the nervous and the homogeneous walls of the capillaries of blood vessels and lymphatics is called *neuroglia;* it is the matrix of these parts, also the brush-like terminals of the individual neuraxons.

To my mind this neuroglia tissue has a higher value than a physical cement. While it subserves that purpose it has a biologic function that supplements the dynamics of the neurons. The neuraxons give off short processes or arms at right angles that have the same brush-like terminal, and it finally splits up into two or more terminal divisions. The sensory neurons may be said to start in the periphery—common sensation, muscular sensation, the retina, etc., and each quality of sensation has its starting organization in the viscera or periphery and its afferent pathway to the sensory centers; the commissural neurons have a similar build to the motor and

13 T. L. MADDIN, M.D., *Medical and Surgical Bulletin.*

sensory neurons. The motor neurons terminate in muscular tissue, either the visceral or voluntary muscles, and functionally are efferent. While the brush-like (arborescent) terminals prevail, there are other forms for terminals, according to the varying function of the organs to which they are distributed. While the general type of neurons is the same, yet the anatomic, chemic and physiologic variations are very great, for every nerve center has a molecular organization that qualifies it for the duty it is to subserve in the biologic problem. In the same nerve center the neurons are not only individual units, but are homologous; this is true alike for sensory and motor centers: the commisural neurons are the telephonic links that bind all centers in rapport with each other, both in reference to their work and their needs

The histologic structure of a nerve cell, to give it biologic and functional activity, demand a plasma, a stroma, a nucleus and a nucleolus; the highest and most complex part of the assimilating function finds expression here, and error in any of the factors of its metabolism will abort the physiologic work of the neuron, whether it is in the pathway of assimilation or disintegration. Nature's chemical masonry in forming nerve molecules, out of which the nucleolus, the nucleus, the stroma and plasma is built—each after its kind—is one of the problems of the day. It is here that the features of acquired predisposition and heredity are fashioned and perpetuated in many cases, whether it is for the health or disease of the nervous systems. Neurotic temperaments and functional nervous diseases find their special pathology in the molecular errors of construction—chorea, catalepsy, epilepsy, hysteria, neurasthenia, functional insanity, etc., are illustrations of this fact.

Biologic tension of sensory and motor neurons leads to explosive paroxysms of sensory and motor pathology. When the nucleus of a nerve cell dies, the cell survives only for the time its stored force continues, but is passing into a fatty degeneration; it can never be revived any more than a grain of wheat or any other seed can sprout after its germinal point is destroyed. Every nerve cell (neuron) in its function of assimilation (anabolism) and disintregration (catabolism) is in a state of rhythmic motion, as definitely performed as the heart, and, we surmise, the visceral and peripheral end of systolic and dyastolic chain of nerve function is represented in this molecular tremor of the neurons.

Obesity as a Disease.[14]

The fatal effects of obesity as a disease exemplified themselves lately in the case of Otto Meyer of Paterson, N. J. This victim of extreme obesity, although only in his twenty-ninth year, had reached the enormous bulk of five hundred pounds, having gained seventy pounds within the last seven months, the last month of his life being marked by an increase of twenty-four of these seventy pounds. His death was sudden, being found dead in bed. By occupation he had been a brewery hand, but engaged in the out-door occupation of delivering beer, an occupation he had to relinquish when reaching such a bulk that it was impossible for him to mount to the wagon seat. The heart, in the end, becomes the weak and fatally unresisting organ in these extreme cases of obesity.

The writer has now under treatment the results of a case of unaccountable obesity, beginning in early youth, wherein the victim about brought on his death by violent attempts to reduce himself. With an increase of flesh to a certain point the case now invariably improves, and with a falling off of flesh the health as invariably suffers. A form of anemia—bordering on the pernicious type—is the most prominent feature of the case. Great blood disorganiation has resulted from the previous reducing efforts, and the patient will probably come to his end through this disorganization of the blood and the degenerative result of this on the various organs.

Dilatation of the Stomach.[15]

In some cases met with by the author, the degree of dilatation varies greatly, and the symptoms are not in proportion to the degree of dilatation. In extreme cases the stomach occupies almost the entire anterior aspect of the abdomen, overlying the small intestine, and having the ascending colon to the right, the descending colon to the left, of it. From the right iliac fossa, it turns upwards and curves towards the pylorus, which is usually not far from its normal situation, but may be displaced in any direction. In such cases these pyloric obstructions are not, as a rule, of a malignant character, for carcinoma is usually fatal before there is time for the production of such great dilatation. Such advanced cases are rare.

In less advanced cases the stomach lies across the abdomen, with the lesser curvature above, and the greater below, the umbilicus. The hour-glass contraction of the stomach may cause dilatation by interference with the peristaltic movements of the organ. Speaking generally, the stomach will be found displaced downwards by the weight of the food and secretion detained in it when it is dilated from mechanical obstruction, while it seems to remain in close contact with the diaphragm, often pushing it upwards, when the dilatation is the result of distension without pyloric obstruction.

Independently of actual obstruction, dilatation may be caused by the amount of food taken, and

14 P. C. Remondino, M D., in *Pacific Medical Journal.*

15 Sir William Broadbent in *The Practitioner*, (*Univ. Med. Mag.*)

by atony of the muscular wall. Dilatation is usually established gradually, but occasionally it comes on acutely.

The symptoms are due partly to imperfect assimilation, partly to ptomain poisoning, while others are due to the mechanical effect of the enlargement and displacement of the organ. The most characteristic but by no means the most common symptom is copious vomiting daily or at irregular intervals. It most commonly occurs in the night, either soon after lying down or in the early hours of the morning. Very commonly visible peristalsis can be started by manipulation and travels from left to right. Heart symptoms are very common; palpitation, irregularity of the pulse, and cardiac asthenia may lead to an incorrect diagnosis of organic cardiac disease. Another symptom is anginoid pain, and when of gastric origin is apparently produced by actual pressure upon the heart. It may be very severe, and extend down the left or even both arms. The first attack is often a very severe one, and is not necessarily associated with exercise, both of which points help to distinguish it from true angina pectoris. Embarrassment of an enfeebled heart by a dilated or distended stomach is often the last straw which brings its unavailing efforts to a premature end, and many sudden deaths are precipitated in this way, when the heart might otherwise have gone on for years. Vertigo is another symptom, and may lead to a diagnosis of Menière's disease.

The diagnosis of dilatation of the stomach is made by means of physical signs, and of these the most conclusive is visible peristalsis. Splashing and the conduction of the heart sounds over the area of the dilated stomach also help to define the limits of the organ.

For treatment the stomach tube is the most important of the means at our disposal. It is best used in the evening. If the stomach contains much fluid, this should be syphoned off before the washing is begun. Usually the simple removal of the contents of the stomach, without washing out, is sufficient. Great attention must be paid to diet. The meals must not be bulky, and litttle fluid must be taken with food. Starchy articles are to be avoided. Much help may be derived from drugs, and the author mentions the most important of these, and concludes his paper with the warning that when we have detected distention or dilatation of the stomach we have not necessarily completed the diagnosis or arrived at a clearly defined line of treatment. The stomach affection may be an incident in a great variety of morbid processes.

A Newly Discovered Remedy for the Opium Habit.[16]

In an unclassified plant, probably indigenous to the everglades of Florida probably exists the most perfect antidotes extant for the various forms of the morphin habit. It is known by the name of husa and is of a dirty whitish-green color, about two or three inches long. It has at its summit a ball-like white formation. Where the flower should be, this is hard, slightly lobulated, and is to all appearances like a small cauliflower. It grows in clumps in moist, shady places, particularly on the hammocks at the roots of the cabbage palms. It is of a low order of plants, above the mosses; it is, I believe, a cryptogam. It is possibly indigenous to the everglades, for I hunted for it in vain in many large hammocks in Florida. From Dr. McGregor I learned that it is a perfect antidote for all snakebites, stings of insects, etc.; also an antidote for narcotic poisons. It is the most diffusible stimulant known, acting immediately.

I have subjected the plant to various tests, and found it an infallible cure for the opium habit. It takes the place of opium or morphin. Supporting the patient fully, it is sedative but not narcotic. It produces slight elation, but no somnolent effect. To use the illustration of one physician who cured himself of the opium habit with it, a habit of twenty-three years' standing, one who was using forty grains of morphin sulphate daily, "It makes a man feel just as easy and comfortable as one feels after a satisfying meal. As soon as I learned its properties I sent some of the husa plant to several doctors I knew who used morphin; they one and all pronounced it 'a perfect success.' I have never known of a failure when the patient wanted to be cured. In the hands of a careful physician, this remedy will be found efficient in the worst cases of drug addiction."

I first observed its use in connection with that of the arrow-leaved violet, *Viola hastata*, a plant that is found growing from Canada to Florida and westward to Arkansas. *Viola sagitata* has long been known as possessing properties antidotal to snake poison.

When living in Florida I often saw strange things done with snakes. A negro was visiting the towns on the Indian River, giving exhibitions with two immense, terrible-looking rattlesnakes. He would irritate the snakes and allow them to bite him in any part of his person indicated by anybody who was willing to pay twenty-five cents to "see the show." The snakes had their fangs, which must have been about three inches long. Furthermore, the negro would allow himself to be bitten by any snake that a person might catch and bring to him. I saw him bitten several times by moccasins that had just been caught. After each bite the negro would take a mouthful of some herbs which he carried in a little bag, maintaining that the herbs counteracted the venom. He had none of the herbs for sale, the 'whole show' consisting of seeing the snakes bite. By the judicious use of

16 Dr. W. W. WINTHROP in the *Texas Courier-Record of Medicine.*

money and whisky I succeeded in worming out of the negro this information: "Boss, dey is viellies an' huser, an' I gets 'em from de Semmes in de dales."

"Semmes in de dales" evidently meant the Seminole Indians of the everglades, and to them I betook myself for information. But, though I used every means I could think of to get information about their remedies for snake-bite, I could elicit nothing from the Indians, men or women; neither the young men and boys, with whom I hunted day and night, could I induce to speak, though every one of them knew what I wanted. I was a stranger to them and that was enough. These Indians will not give a stranger information about anything; they must know who and what he is first. Just as I was about to give up disheartened, I fell in with a Scotch physician who was botanizing in the everglades. This gentleman interpreted "viellies" as meaning "the spear-eared violet—*Viola sagitata*"—and "huser" as denoting an unclassified plant variously called "husa," "hoosa," "yousa," and "yusee" in Florida.

Inhalation of Vinegar to Control Nausea and Vomiting After Anesthesia.[17]

Many and varied are the methods proposed and used to overcome the nausea following the administration of an anesthetic, but one of the simplest and, in my own experience, one of the most satisfactory methods of controlling this condition has been the administration of strong vinegar by inhalation. The use of vinegar in this manner for vomiting was first proposed in 1829 and was practiced from time to time by various surgeons, but it remained for Mackenrodt to apply it extensively, he probably having adopted it from the recommendations of earlier surgeons, who lived in both the pre- and post-anesthetic days. Its beneficent action is explained by Lewin as due to the neutralization of the free chlorin, one of the products of chloroform, by the acetic acid. The chlorin acts as a marked irritant to the pharyngeal mucous membrane and induces vomiting, but it is neutralized by the acid, which soothes the irritated parts as well. Ether, however, is much more directly irritating to the respiratory passages during inhalation, but the vinegar gives as satisfactory results after it as after chloroform narcosis. The simplest explanation of its good effects is that its pungency stimulates—it being too dilute to exert any irritative action—the respiratory mucous membrane and promotes the normal secretions and, by its soothing action upon the peripheral nerves of the parts, lessens the irritability of the pneumogastric or its centers, and the reflex condition of vomiting is controlled. Furthermore, that vinegar is a restorative and soothing stimulant to the respiratory tract and to the nervous system, is well attested by its wide-spread use among the ladies in their vinaigrettes in place of "smelling salts." In certain countries, the pungent qualities of the aromatic vinegar are used almost to the exclusion of the ammonia or lavender salts, and all because of the more refreshing effects following its use.

Whatever the correct explanation may be, certain it is that, in cases which have been properly prepared for operation, and whose stomach has not been filled with blood during the operation, it almost, if not completely, prevents vomiting. The method of administration is by saturating a towel or cloth with fresh, strong vinegar (preferably that made from cider), and holding it a few inches above the patient's face, or hanging it from the bedstead so that it will be near his head. It should be used directly after the anesthetic has been discontinued and kept up continuously for hours.

In one case, to which ether had been given, nausea began soon but ceased in about one and one-half minutes after using the vinegar. This was then removed and the nausea returned, but again disappeared after the vinegar was given. The action was so marked that the process was repeated five or six times so as to verify the conclusions and each time the result was the same as first noted, the patient quickly becoming quiet as though going under complete anesthesia.

Another case was given chloroform for the removal of pharyngeal growths and swallowed considerable blood. Vomiting of the clotted blood occurred but ceased immediately after and did not return.

These have been duplicated by about twenty-five or so others in whom the action was almost uniformly beneficial. The relief from thirst to the patient is most marked and the refreshing effect is both graceful and welcome to the sufferer. Its simplicity and efficiency commend its use to all having aught to do with such cases. It is also free from any toxic effects and can occasion no harmful conditions.

17 J. Torrance Rugh, in *Philadelphia Polyclinic.*

A recently published report of investigations of the effects of tobacco, during the epidemic of cholera at Hamburg, states that there were no live microbes after twenty-four hours in the cigars made up with water containing 1,500,000 cholera microbes to the cubic-centimeter.

The country clergyman was nailing a refractory creeper to a piece of trelliswork near his front gate when he noticed that a small boy stopped and watched him with great attention. "Well, my young friend," he said, pleased to see the interest he excited, "are you looking out for a hint or two on gardening?" "No," said the youth; "I be waiting to see what a parson do say when he hammers his thoomb."

The Periodical Shedding of Teeth.

There is a particular fish, allied to the pike, met with in the seas of North America, which displays the probably unique characteristic of shedding its teeth annually. The teeth appear to be shed in the early autumn, this process being preceded by a period of inflammation of the gums. By October, however, a fresh eruption of teeth takes place. One is tempted to regret that this phenomenon should present itself exclusively in a mere fish. Nature has dealt rather hardly with human beings in according only one complete set of molars, for the most praiseworthy adaptations of the highly skilled modern dentist are but a sorry substitute for the masticatory apparatus provided for our use by Nature's laboratory. A race that rejoiced in this automatic dental rejuvenescence would carry all before it, and would literally eat up the rest of the world. The pangs of unrequited love are as nothing to those endured daily and hourly by millions of human beings whose teeth have gone to rack and ruin, and the evils dependent upon defective teeth are by no means limited to sensory inconveniences. Half the cases of dyspepsia requiring treatment are due to imperfect mastication and consequent inadequate digestion, evils which would not exist were our teeth methodically replaced like the hair or the epidermis. The teeth are dermal appendages, as physiologists never tire of telling us, and it is really remarkable that the ready reproduction which characterises all other dermal appendages should be conspicuous by its absence in the matter of the teeth. Science, however, holds out no prospect of an improvement in this respect, and if we would retain the unimpaired use of our teeth we must e'en take care of those which fall to our lot, and failing this, have recourse to the nearest dentist for substitutes.—*Med. Press.*

Version Extraordinary by Ramsbotham.

The Reminiscences of the venerable Dr. Robert Barnes, of London, as given by him in current issues of the *Scalpel*, affords us the following anecdote: My recollections of the London Hospital are pleasant. I was elected assistant obstetric physician in 1859, and so had at first to serve under Dr. Ramsbotham. We worked very well together, but he continued to hold office longer than was expected. I may relate one instance, illustrating the anomalous position in which the obstetric physicians were held. A case of gestation, demanding delivery by Cesarian section, occurred. Obviously this was an obstetric case, but under the surgical law, delivery requiring the knife was within the right or duty of the surgeon. Ramsbotham and I had to look on while the surgeon operated. The surgeon laid open the abdomen, laid bare the gravid uterus, made an ample incision in it. The fetus came into view, its long axis corresponding to the long axis of the uterus. He seized an arm, dragged it, expecting to lift the fetus easily out of the uterus. He was foiled, but tugged at it till uterus and fetus together came through the abdominal wound. At this crisis Ramsbotham had to intervene and do the obstetric work. He put the arm back, by a delicate maneuver, seized a foot, and holding this with one hand, whilst he applied counter-pressure with the other hand upon the head and upper part of the trunk, he turned, and extracted the child with the greatest neatness and ease. A more beautiful and artistic demonstration of the problem of turning than this completely visible performance it is impossible to imagine. One thing it proved was that the surgeon was not qualified to practise obstetrics.—*Jour. A. M. A.*

The Cheerfulness of Doctors.

A reason for this cheerful temperament is doubtless to be found in the type of man entering the medical profession. The nervous, the timid, the dyspeptic and the invalid do not readily take to the doctor's calling. It demands too much energy, fortitude, and capacity for human intercourse. Only those endowed with strong and virile temperaments are fitted for the calling or likely to embrace it. The intensity and superabundance of this initial virility is powerfully exemplified in medical students who are not notable for the repose of their manners or the gentleness of their instincts. How much of a residuum of high animal spirits remains in matured and aged members of the medical fraternity is often shown at the annual functions of our medical societies, in which long-repressed hilariousness assumes a form of mitigated rowdyism. It is because medical men are, as a class, of a peculiar virile and fluid nature that they are cheerful and resourceful.—*Physician and Surgeon.*

Educating the Laity.

We are often amazed at the profound ignorance of medical science manifested by the laity. This ignorance is not limited to the illiterate, for we meet with men among the highly educated classes, teachers, ministers, and lawyers, who appear more attracted towards voodooism than to our noble science. If reason places an idea in the mind reason can remove it and supplant it by another, but there is no known method of displacing an opinion that has been acquired without reason.—*Charlotte Medical Journal.*

Yellow Fever.

Whether the bacillus of Sanarelli, the ameba of Klebs, or some as yet undiscovered microorganism, is the cause of yellow fever is of less importance just now than the determination of the best means of arresting its invasions of this country—*American Medico-Surgical Bulletin.*

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Editorial.

THE PRESERVATIVE ADULTERATION OF FOODS.

The consideration of the healthfulness of the alimentative supplies for the human race is most important since the development of man must depend to a large degree upon what he eats and drinks. Perhaps too little attention has been paid to the increasing custom of preserving perishable articles of food by means of adding antiseptic drugs. Milk and meats are the articles chiefly thus adulterated, the process being solely for the benefit of the tradesman who would lose through the spoiling of stock.

The subject is one of more than passing interest, particularly in regard to milk which forms the staple food of so many children. The hygienic relations of the use of antiseptic drugs has been investigated to a certain extent, and strong ground has been taken against their use, but as yet this opposition has not been effectively reinforced by investigations yielding practical results. Therefore as matters stand, the public is largely at the mercy of its purveyors.

There is always more or less agitation in regard to the use of milk from tuberculous cows, and the mere mention of the possibility of tuberculosis infecting a milk supply creates vivid interest not only with the profession but with the laity. On the other hand positive knowledge of the presence of borax or boracic acid only awakens the mild comment, "Oh, that is only put in to keep the milk," and the matter is dismissed. Yet it is problematic whether milk is a favoring culture to the development of the few tubercles which may escape into it, while there can be no possible doubt as to the deleteriousness of constant ingestion of various antiseptics.

Digestion is more or less of a fermentative process, and the presence of antiseptics must necessarily interfere with the transformations which adapt the food to the use of the system. They may cause defective nutrition by changing the material to be digested so that its most nutritive elements are locked up; or even when they have no action, either direct or indirect, upon the food, they may affect the health of the individual through their own absorption. For instance, salicylic acid will prevent the formation of some of the digestive ferments necessary to the changing of food to an assimilable form, formaldehyd or formalin will keep the food in a form practically inaccessible to the action of the various digestive ferments, and borax and its derivatives are in some instances prejudicial to health in their direct action upon the system.

In the line of recent research upon the effects of food preservatives upon the general public health the experiments conducted by Chittendem and Gies and published in the *American Journal of Physiology* are of value. They used full-grown dogs, weighing from 18 to 25 pounds for their experiments, which were conducted over a period of seven weeks. They conclude:

Borax, in quantities up to five grains per day indefinitely continued exerts but little effect upon tissue changes or the general nutritional changes of the body.

In doses of from five to ten grains the drug leads to an increased excretion of nitrogen, the phosphates and the sulphates.

Borax in large doses in a measure retards the assimilation of proteid and fatty foods, increasing the excretion of mucus and giving rise to a tendency to diarrhea.

There is no action upon the putrefactive processes of the intestine, this chiefly because of its rapid absorption from the intestinal tract.

Elimination is too rapid for cumulative action.

Boric acid is practically without any influence

in the direction of any of the changes noted.

The above statements are interesting, but cannot be regarded as conclusive. Although the results as regards boric acid are as yet negative, it cannot be predicated that the drug is therefore harmless from one or the other of the points of view outlined. It is a conceded fact that whether any one antiseptic shall operate as a harmless preservative, preventive or remedy, or as an unhealthful or even fatal poison to the consumer of food or drink containing it, depends upon the quantity and frequency of the dose. Hence due regard must be given to the relative proportion of the active substance ordinarily present in the food. Obviously it would be rare indeed for a daily ration of food and drink to contain five-tenth per cent. of borax, at least so Prof. Chittendem concludes from the series of experiments noted, and such proportion is the least that is esteemed especially harmful.

The action of the drug seems in many respects analogous to that of sodium chlorid, but in no way does it affect the nitrogenous equilibrium of the body unless in excessive doses.

The same conclusion does not apply to the action of either salicylic acid or of formalin, both of these having distinctively evil effects. They are both tasteless, and both not only affect the digestibility of the food but also influence the secretion and effectiveness of the various digestive ferments. Although a "Scotch verdict" results in the one case, in the other the offenders must be brought in as guilty of prejudicing the public health, and a close watch should be kept upon their use and abuse.

"Centralblatt fur die Grenzgebiete der Medizin und Chirurgie."—A journal for the discussion of cases on the borderland of medicine and surgery — of cases where physician and surgeon may co-operate. It is likely to be of great service, and promises very well. It is under the editorship of Dr. Hermann Schlesinger, of Vienna, and is published by Gustav Fischer, of Jena. In an explanatory introduction Mikulicz and Nauyn point out that the new venture in no way interferes with the Mitteilungen founded by them on the same subject some two years ago.

Dr. Beloll advises that castor oil be heated and thoroughly applied to the abdomen of the child suffering from constipation. Often this will move the bowels as effectually as when the oil is given by the mouth.

Abstract.

A CASE OF DERMOID CYST IN GÄRTNER'S DUCT, DERMOID CYST IN THE SIGMOID MESO-COLON.*

A married woman, aged thirty-three years, was admitted into the Leeds Infirmary September 8 with an abdominal tumor and with a dermoid cyst of the vagina. Ten years ago, and again eight years ago, the patient had been in the hospital suffering from a dermoid cyst in the vagina which had been on each occasion opened and scraped. The cavity had again filled and she sought readmission, wishing for the removal of the cyst.

September 5, three days prior to admission, she had suddenly and unexpectedly discovered a swelling in the abdomen on the left side. On this day and on the previous day she had a rigor with high temperature and vomiting, and it was during a seizure of vomiting that she had placed her hand upon the abdomen and noticed for the first time the swelling there. Menstruation had been regular up to the previous six months, but since then it had been very excessive in quantity and more frequent, although normal in the duration of each period.

On admission abdominal examination revealed a large and prominent swelling, rounded in outline and hard in consistence, situated in the left iliac and hypochondriac regions. Above it reached to about two inches beyond the umbilicus and laterally it extended on the one side just to the middle line of the abdomen and on the other to about one inch outside a vertical line drawn upwards from the anterior superior iliac spine. The swelling was firm and very tense, very slightly movable from side to side and very tender on manipulation. There was obscure and rather doubtful fluctuation; the skin was not adherent; over the whole prominent area a dull note was elicited by percussion. On vaginal examination a swelling of the size of a tangerine orange was felt at the upper part in the left wall. On introducing a speculum the surface of the tumor was found to be covered with long coarse hairs; this lump was also tender on manipulation. The abdominal tumor could not be felt on examination here.

September 11 the dermoid tumor in Gärtner's duct was readily removed by the vaginal route. In spite of the previous operative measures it shelled out quite readily. On cutting open the tumor the contents were seen to consist of a sebaceous, fatty, fibrous, and hirsute conglomeration, the hairs therein being very long and coarse. After this operation the patient did well and on the 18th she was again put under ether and the abdominal tumor was dealt with. After anesthetization an incision about four inches

* J. Clough in *The Lancet.*

long, subsequently enlarged to double that length, was made over the most prominent part of the tumor, which chanced to lie in the position of the linea semilunaris. On exposing the tumor after opening the peritoneum an exploring syringe was introduced with a large needle and some very thick material, porridge-like in consistence and appearance and composed in part of pus and in part of sebaceous material, was with difficulty extracted.

On exposing the tumor thoroughly it was seen to originate and to lie in the meso-colon of the sigmoid presenting on the outer side of the bowel and pushing this portion of the gut towards the median line. The sigmoid was very closely adherent to the tumor throughout its length. The peritoneum, the outer leaf of the sigmoid meso-colon, was incised and the tumor was with difficulty shelled out. It was everywhere intensely and firmly adherent and on stripping it away from the sigmoid a small opening in the latter was unavoidably caused. This opening was stitched up by two rows of fine silk sutures. After completely enucleating the tumor the wound in the peritoneum was stitched (as in Langenbuch's method applied to the kidney) to the incision in the parietal peritoneum at the orignal wound and gauze drainage was adopted.

The patient was very profoundly collapsed after the operation and three pints of saline solution were introduced into the median basilic vein with great benefit. For the first twenty-four hours her general condition decidedly improved, but on the 23d persistent and wholly uncontrollable vomiting set in and there was after removal of the gauze packing some questionable fecal discharge from the wound. On the 24th her condition became worse and she died from collapse and exhaustion on the 25th.

At the post-mortem examination the wound in the sigmoid was closed and firmly united and the cavity seemed in a fair way for healing. The pelvic organs were normal. The abdominal tumor contained sebaceous matter and hair, with a large amount of solid material. The contents were infiltrated with pus and the whole mass seemed in a state of acute inflammatory disorganization.

The points worthy of special note in this case are: 1. The alleged sudden appearance of the abdominal tumor. This I well remember to have seen in a case of ovarian dermoid in a patient aged twenty-seven years, who, so far as she was aware, was well in all respects up to a moment when she was assailed with a rigor with vomiting, and had, on investigation, a temperature of 105° F. After this attack she discovered for the first time a swelling of the size of a cocoanut in the right lower abdomen, which, on removal, proved to be an ovarian dermoid. It may be that the high temperature sets up in a dermoid tumor a latent activity of development and produces, as in both these cases, an acute inflammatory reaction in the tumor attended by a sudden increase in size. On the other hand, the oncoming series of changes in the tumor due to other, not obvious, causes, may be the cause of the constitutional distress and disturbance.

2. The occurrence of two dermoids in the abdomen. Dermoid cysts in the duct of Gärtner are uncommon and those in the meso-colon decidedly rare. I have discussed this subject of mesenteric dermoids fully in the *Annals of Surgery*, July, 1897, but it is perhaps worth recalling that until Mr. Langton's case was recorded where a dermoid was removed by abdominal section from each ovary and a third from the mesentery the presence of a cyst of this kind in the mesentery was attributed to an extension of the tumor from the ovary. In my case, as I have remarked, the ovaries were found to be perfectly healthy.

EQUILIBRATION AND ITS RELATION TO VERTIGO.*

Vertigo is essentially a psychic phenomenon and may be defined as the consciousness of a disturbance of the body equilibrium. The maintenance of equilibrium represents the action of those forces in the organism having to do with the preservation of the position of the body in space. This preservation of the body equipoise is only one of the acts comprising the general process of equilibration which consists of the balancing of all forces operating in the organism. These forces are called functions, and equilibration, therefore, in its broad philosophic significance is the maintenance of the physiologic balance. Frequently, however, the term "equilibration" is used in a restricted sense as meaning simply the act of maintaining the equilibrium. Thus limited and defined, the expression will be more convenient, and for the present purpose will be so employed.

Under normal conditions the act of maintaining the equilibrium is carried on automatically and independently of consciousness, and it is only when there occurs a defect in the mechanism of the process that we become conscious of the result of its defective operation. This result is that peculiar sensation called giddiness or dizziness, or when the sensation is more intense, it is termed vertigo. At no time are we conscious of the process of equilibration either in its defective or normal action. We are conscious only of the results of this action, which in the case of defective equilibration is the sensation of vertigo, and in the case of normal equilibration is the sensation of maintained equilibrium. Ordinarily, this latter sensation is not perceived in consciousness unless it is made the object of special attention. When this is done the act of equilibration ceases to be automatic and becomes in part voluntary, that is, it is as-

* FRANK HALLOCK in *Journal of Nervous and Mental Disease.*

sociated with consciousness and, therefore, may be said to have a psychic element. The simplest kind of action which will illustrate the operation of this psychic element is that of voluntary body balancing. In such effort the action of muscle in correspondence to sensory stimuli does apparently yield distinct sensations which can best be described as those of lost or maintained balance. It is also possible to conceive of these acquired reflex sensations as of frequent occurrence in the consciousness of a child learning to walk. As the motor adjustment to the sensory stimuli becomes more perfect, the resulting sensation grows less vivid in consciousness until, finally, by constant repetition, the act of equilibration, like the act of coordination, with which it is closely associated, becomes purely automatic. The term automatic, rather than reflex, is used to denote that the act is a complex of reflex acts and may be subject to modification by intercurrent cortical influence.

In this act of body balancing, which represents the mildest form of equilibratory disturbance, there is no true vertiginous sensation. Such sensation as does exist is the result of a series of sensori-motor processes, each short, complete and successful in its alternating loss and recovery of the body equipoise. If we were to imagine a rapid succession of ineffectual attempts to regain the body balance, then the sensation of vertigo would arise in consciousness.

The act of maintaining the body equilibrium or equilibration, using the term in its restricted sense, as an organic process is dependent not upon the operation of a special equilibratory apparatus or center, such as has been suggested to exist in the semi-circular canals and cerebellum, but upon the operation of all parts of the general sensory-motor system which in any way subserve the process in question. The action of these parts is not separate and distinct, but combined; and yet the impairment or absence of one or more parts does not necessarily destroy the general function, but it simply limits its extent and power. Thus, admitting the importance of the part played by the semi-circular canals, it is noted that their destruction does not apparently interfere with the continuance of satisfactory equilibration.

Likewise, loss of vision and impairment of the tactile sense may occur, and yet the body equipoise be maintained. Indeed, it is possible to conceive that all sensory stimuli may be diminished to the point of barely permitting the simplest motor coordinations, and still consciousness be not aware of disturbance of the equilibrium. Experiments with animals have shown that the function of equilibration may persist after the removal of the cerebral hemispheres. This fact clearly demonstrates that consciousness is not an essential factor in the act. It is also certain that the cutting off of all sensation would render the phenomenon of vertigo impossible. The severest attacks of vertigo occur only when the sensory paths are in a condition to transmit powerful, but perverted stimulations to encephalic centers.

While there need not be, therefore, and commonly is not, a psychic element in equilibration, it is nevertheless true that in man this act in its very highest development may be considered not a purely physiologic but a psycho-physiologic affair. And viewed as automatic, it may be said to be by a species of retrogressive development the result in part of conscious or voluntary acts. Thus, in the child learning to walk, or in feats of body balancing, the acts become automatic by repetition, and what are largely voluntary acts, executed at first with the aid of consciousness, gradually lose their psychical concomitant and become automatic.

The act of equilibration consists of the operation of three sets of factors.

(1) Peripheral end organs with their afferent nerves conducting sensory stimuli.

(2) Coordinating centers receiving these stimuli.

(3) Efferent nerves from these centers conducting motor impulses to the skeletal muscles.

The first group of factors represents sensory stimuli arising from all sources in the periphery which are capable of yielding directly or indirectly sensations of the positions of the body. The three chief sources of these stimuli, are: First, organs and nerves in the skin receiving and transmitting tactile impressions. Also grouped with this class are the sensory nerves of the muscles, tendons, ligaments and joints which transmit impressions indicating the position of the limbs or body as a whole. This is the so-called muscular sense.

Second, the eyes with their retinal expansion receiving and transmitting visual impressions through the optic nerve.

Third, the semicircular canals of the internal ear receiving and transmitting through the vestibular branch of the auditory nerve stimuli, which indicate the position and balance of the head, and less directly play a part in the precision of movement and general state of equilibrium throughout the body.

The coordinating centers, located chiefly in the mesencephalon and cerebellum, are the second factor in the act of equilibration. Animal experimentation and pathologic conditions in man show the connection of those centers both with the cortex above and the lower centers in the spinal cord. On one hand, following injury or absence of the hemispheres, the subcortical centers are seen to functionate satisfactorily for all simple peripherally initiated acts of equilibration, while the complex or originating acts fail of execution. On the other hand, injury to the mesencephalic or cerebellar centers causes direct and more or less permanent impairment of

the simple as well as complicated acts of equilibration.

The third factor is the system of efferent nerves from these centers carrying motor impulses which excite muscular action, thereby adjusting the position of the body in accordance with sensory stimuli previously received.

The imperfect operation of any part or the whole of this triple mechanism may give rise to a vertiginous sensation which will correspond to the degree and extent of the disturbance of this mechanism. In the order of importance the coordinating centers take precedence over the other factors, and it may be stated that unless the disturbance in any part of the mechanism also involves these centers no vertigo will result. They seem to preside over the functions of equilibration, and on their integrity depends the success of adjusting the efferent motor impulses to the afferent stimulations. These centers are subject to two classes of impulses, the peripheral afferent stimuli, and influences from the higher cortical centers, which may modify or interrupt their action. In the case of absence or perversion of stimuli from any point in the periphery, the coordinating center accommodates itself to the deficiency and carries on the mechanism for all ordinary acts of equilibration nearly as completely as before. The cortical or psychic influence on the equilibrial centers is seen under emotional conditions.

The efferent nerves are the least important factor in the general mechanism of equilibration. They, and the muscles they innervate, may be subject to serious disorder, and yet no vertigo result unless the coordinating centers from which the impulses are derived are likewise disturbed. This is seen in advanced ataxia. The movements of the legs may be so imperfect and uncertain that the patient cannot stand or walk, and yet no vertigo results because the sensation of lost balance ceases when the effort stops. The sensation of disturbed, or lost, balance must persist in consciousness in order to produce vertigo.

Pursuing in brief detail the study of the sensory stimuli on which the integrity of the equilibrial centers in the main depends, the truth of the assertion that the act of equilibration is of compound and not simple nature, is soon made evident. Considering first the influence of tactile and muscular sense impressions, it is noted that removal of the skin of the hind limbs of the frog, or Heyd's experiment in man of benumbing the cutaneous nerve endings in the soles of the feet by chloroform, results in difficulty in standing and keeping the body balance. In locomotor ataxia we have the combined effect of impaired tactile sensibility and also disturbed joint-muscular impressions resulting from the ataxic condition. In maintaining the equilibrium the ataxia is relatively of less importance that the loss of skin sensibility. That is, the ataxia may be pronounced without marked equilibrial disturbance, and *vice versa*, the equilibrium may be greatly disturbed without ataxia. With the loss of tactile sensibility, say of the soles of the feet, however, there always occurs difficulty in balancing the body, and the amount of this difficulty seems to depend more upon the degree of impaired tactile sensibility than upon the degree of ataxia.

The effect of visual stimuli upon the above phenomena is very distinct, and shows the intimate relation existing between the tactile and muscular sense. In every instance the difficulty of maintaining the balance is immensely lessened provided the eyes remain open. Within certain limitations the impairment of both the tactile and muscular sense may be compensated for by the visual sense. The simple standing erect of the ataxic individual with eyes alternately open and shut will illustrate the close association of the two kinds of stimuli in their effect upon the equilibratory centers. In the blind the absence of visual impressions requires the higher development of the tactile and muscular senses, with a consequent much greater dependence upon stimuli of this character. But in the normal individual the two sets of stimuli are developed together, the eyes noting the point of contact and following the movement of the limbs in the various positions assumed independently, or in relation to external objects.

Visual stimuli may exert a disturbing effect upon equilibration in two ways. First, by the field of vision, such as is experienced on movunusual movement and relation of objects in the ing trains, or in regarding those passing, in watching swiftly running water, in looking over a precipice, etc. The visual impressions arising from the extraordinary relation of external objects demand new and uncommon efferent impulses which the equilibrial centers are not capable of furnishing. Hence, a failure in the motor adjustment to the afferent stimulation results, and consequent upon this failure there arise in consciousness feelings of insecurity, of abnormal body position and space relationship, of imperfect balance and dizziness.

Secondly, these same sensations may be experienced following perverted visual impressions dependent upon the defective operation of the oculomotor mechanism. The condition of nystagmus, or paralysis of the external rectus muscle of the eyeball, yields disturbed visual impressions which produce the feelings in consciousness mentioned above.

There is no reasonable doubt among physiologists that stimuli exist, and that they play a part in the movements of the head and body, particularly in regard to the precision and equilibration of the muscular acts. The evidence of this function is derived through experimentation upon the canals in animals, and the pathologic and functional disturbances of the ear in man. The work of Flourens and subsequent investi-

gators is sufficiently convincing, and the disturbance of the equilibrium associated with affections of the ear in the symptom-complex, called Méniére's disease, is unmistakable proof of disordered semicircular canal stimuli. It has been argued that these canals cannot be such an important factor in equilibration as claimed, because we are so unconscious of their operation. It is true that the stimuli arising in the canals and carried by the vestibular nerve do not excite sensations such as result correspondingly to the visual or tactile stimuli, but this very fact may be said to indicate the deeper and vital nerve function of these organs. The acts of respiration, circulation and digestion under normal conditions yield no sensation. Similarly if we consider what a fundamental and vital process the act of equilibration is, how it lies at the very bottom of organic stability and the preservation of the body in space, then it is easy to see how the function should be independent of consciousness. It is a function, too, which has existed from the moment of birth, and, viewed psychologically, must have been present in an incipient degree previous to the development and incorporation of its visual and tactile factors.

In considering the cutaneous sensations, it is possible to conceive that the atmosphere may produce by pressure upon the tactile end-organs continuous inflowing stimuli, which by reason of their constant and familiar existence fail to develop sensation. If a change in this pressure occurs beyond the ordinary limits, then the stimulus yields a sensation. In a similar manner one can conceive of the normal unconscious influx of stimuli from the semicircular canals. The ordinary atmospheric pressure without in conjunction with a given state of the endolymph of the canals — which is also subject to internal variations from moment to moment, owing to the position and movements of the head — may produce stimuli which affect the coordinating centers below the level of consciousness. If now the external pressure varies, being markedly increased or decreased, as occurs by forcing air in the ear, or in a caisson, or if the internal condition of the canal contents departs from the normal, *e. g.*, by sharp change in the tension due to circulatory disorder, then a variation occurs in the character of the canal stimuli. There is this difference, however, between the change of stimuli of the skin and canals. In the former we are directly conscious of the change, as interpreted by corresponding sensations, viz., touch or pressure. In the latter instance, by virtue of the change in stimuli, we are conscious of sensation corresponding to the stimuli, but of a totally different sensation, viz., dizziness which cannot be traced directly to the canal stimuli.

This dizziness may be compared in character to the sensations of hunger, thirst, and nausea, which cannot be directly connected in consciousness with the stimuli originating them. All of these sensations are complex in nature, and there does not exist the simple immediate relation between the stimulus and sensation as in the case of pressure on the skin. Although of such a general and indefinite character, they are all more or less referable to that region of the body from which the stimuli come. Thus thirst is referred to the mouth and throat, hunger and nausea to the stomach. The diminution of water in the cells of the mucous membrane of the mouth, tongue and pharynx may generate stimuli, which are the chief factor in the production of a general body condition which is represented in conciousness as the feeling of thirst. In like manner, hunger and nausea may arise from the alterations in the gastric mucous membrane. In dizziness, especially of pronounced degree, aural symptoms are almost always present, but the condition is so general, involving, as it does, both visual and tactile factors, that the individual fails to refer it to the ear.

While the semicircular canals are undoubtedly a factor of most unique and special character in the act of equilibration, it is still true that their absence or destruction does not prevent the maintenance of the equilibrium. Animals deprived of their canals show marked impairment in their equilibrating power which is never fully recovered. In deaf mutes and persons who have suffered from destructive lesions of the labyrinth, vertigo is a rare symptom, and cannot be induced experimentally with anything like the frequency that it can in normal individuals. The loss of the semicircular canal stimuli is compensated for in great part by the visual and tactile stimuli, but the complex and highly developed acts of equilibration are not possible, and the capacity of the individual to experience vertigo is correspondingly decreased.

Under ordinary conditions equilibration is an automatic process, but it has been shown that whenever it is associated with conscious effort, it necessarily acquires a psychic element. That it is possible to introduce this psychic or subjective element at all times becomes apparent when we consider that the afferent sensory stimuli necessary to the act of equilibration are the same as those which yield the sensation of position in consciousness, that is, we are conscious from moment to moment of our position in space, and the relation of the body to external objects. Indeed, it may be said that equilibration depends for its existence on the combined action of stimuli, which occasion sensations of position and sensation of motion, but we do not commonly make any conscious application of these sensations in the execution of the act. These afferent stimuli, therefore, may be said to have a two-fold effect, one is the production of pure sensations of position, and the other is the concomitant exciting of centers below consciousness, whereby the body equilibrium continues to be preserved. It is probable, as suggested in the early life of

the child, that the sensations of position were made use of as a psychic factor in the act of equilibration, but gradually, as the act became more perfect, *i. e.*, more automatic, these sensations ceased to be necessary as being consciously related to the act. If the maintenance of the equilibrium can be defined as the action of those forces in the organism having to do with the preservation of the position of the body in space, then the consciousness of a disturbance of equilibrium, or vertigo, may be interpreted as the consciousness of a disturbance of the body position. This definition of vertigo is, indeed, correct with the qualification that the disturbance is of a peculiar kind. It is not every disturbance or change of the body position which is temporary and due to inadequate motor acts, but rather a permanent disturbance both of the cortical and subcortical nerve centers, due to the continuous influx of disordered sensory stimuli from the periphery. The individual, therefore, becomes doubly conscious of disturbed spacial relation, primarily, as the direct result of the distorted sensory stimuli on the cortex, and secondarily, as the result of the disturbed equilibrium or its equivalent disturbed body position which is occasioned also by these same stimuli acting through the medium of the subcortical centers. The actively disturbed body equilibrium, therefore, may be considered as representing the motor side, or motor expression, of the disturbed condition of both the cortical and subcortical centers.

Stimulation of the optic, auditory, and nerves of general sensibility give rise constantly to sensations of position when the body is at rest, and equilibrium can become actively associated with these sensations only when the body is under the tension of the act, either in the erect position or motion. Hence, in the passive condition of the body, sensations of position are developed through purely sensory stimuli, in the active state of the body, the same stimuli are in operation plus the motor adjustment necessitated by them, but without the development of sensations so far as this specific adjustment is concerned. In the latter instance of the body in motion, the equilibrium which is maintained may be termed dynamic, in the sense of being dependent largely upon motor effort; in the former instance, when the body is at rest, the equilibrium is almost purely psychic and may be designated as static, being dependent upon normal sensory stimuli but without motor excitation.

The result of this excitation or adjustment is present in consciousness as the sensation of maintained equilibrium or body position, and if this adjustment is imperfect and continuous, then sensations of disturbed body position are the chief feature of consciousness. Hence, summing up the act of equilibration in its entirety, it would seem justifiable to define its psychic element as the consciousness of body position, while the muscular adjustment maintaining this position represents the motor element of the same process. Certainly, in vertigo we have, on the one side, the consciousness of disturbed body and spacial relationship, and on the other, the consciousness of unavailing motor efforts to rectify this relationship.

Most writers on the subject of equilibration and vertigo have emphasized the physiologic side of the problem, and it has seemed to the author that the failure to recognize the importance of the psychic element has prevented the full understanding of the nature of vertigo. The fact that equilibration can, and ordinarily does occur, independent of consciousness, has led to the ignoring of the influence and connection of the cortex with the act. It seems to have escaped notice that the integrity of the act depends almost as much upon the condition of the cortical as upon the mesencephalic and cerebellar centers. Thus, if the psychic center, or consciousness, is clear, equilibration is perfect; if consciousness is clouded or disturbed from the normal condition, then equilibration is, or may be imperfect, depending upon the character of the cortical disturbance. So far as equilibration is concerned, consciousness may become clouded in two ways: directly, by the reception of disturbed sensory stimuli yielding sensations of disturbed body position, as is the case of true primary vertigo; or indirectly, by the occupation of the whole field of consciousness by other sensations to the exclusion or modification of its normal space and position attributes. This latter condition occurs under strong emotion, shock, pain, or the effect of an idea. The dizziness or loss of the sense of position which accompanies this condition of consciousness results, primarily, not from disturbed sensory stimuli, but from the more or less complete absorption of consciousness in some powerful impression made upon it. Consciousness is preoccupied, and the sensory stimuli fail to produce their natural effect; they are negated, and consciousness, therefore, is without its usual static attributes. The vertigo associated with gastric disorders, cranial nerve crises, emotional states, or whenever present and not originally due to perverted position stimuli, can only be satisfactorily explained by recognizing the cortex as a factor in the function of equilibration.

The ground or basis for advocating the importance of the condition of the cortex in the act of equilibration, and as related to the production of vertigo, is the principle of psycho-physiology so ably developed among English medical writers, by Hughlings-Jackson, and supported by the anatomic and embryologic researches of Flechsig, viz., that all parts of the body have a representation in the cortical centers, and conversely, that these centers may exert an influence on all these parts. Also, in connection with this principle is the accepted fact that all ideas or sensations tend to express themselves, so that

whatever the state of consciousness may be, there exists a constant tendency for it to be manifested outwardly.

The understanding of this principle of cortical influence, the writer believes, is the key to the explanation of all forms of vertigo which arise outside of the primary involvement of the special sensory stimuli which yield sensations of position.

QUININ IN MALARIA, EXCLUDING THE SIMPLE INTERMITTENTS.*

There is a vast difference between the action of quinin in the intermittent malarial fevers and its action in the continued malarial fevers, "the malaria subcontinua typhoidea" of the Roman school, the malarial cachexia and the debatable "terra incognita" of malarial toxemias seen in hot paludal countries.

While Thayer in his recent work on malaria distinguishes three types of the malarial parasites, the tertian, the quartan, and the parasite of estivo-autumnal fever, I believe that it is safe to assert that there is more than one variety of parasite in estivo-autumnal malaria, and that these parasites have an entirely different action as regards the manufacture of toxins.

Under quinin the forms of the ordinary cycle of development disappear rapidly from the peripheral circulation, but the crescentic and ovoid bodies remain a much longer time, sometimes even for months.

Osler, Thayler, Councilman, and others in the North, speak truthfully when they say that quinin is a true specific against the malarial parasite and the malarias which have come under their observation, but as they have not studied malaria in its true home, in a climate fitted for the development of the most virulent parasites, with infections occuring the year around, they are not fitted, by either experience or observation, to settle the question as regards the action of quinin in the malaria that we see in the entire region south of Charleston, and on the Gulf Coast.

It is stated by Northern writers, English, French and German authorities, quinin is the best preventive of infection, but those who live in the regions infested by the severer varieties of malaria, find by experience that quinin cannot be taken indefinitely the year around in doses sufficient to kill the parasite so fast as it develops. Hence various peoples have adopted different measures to prevent infection, which prove better for long-continued use.

In some parts of Italy a strong decoction of fresh lemons will prevent infection, while in other regions of Italy the continual use of small doses of arsenious acid act well, while in India, Assam and Cochin-China, the natives working in the rice fields and subject constantly to severe infection, find that opium will prevent malaria where quinin fails. This to me is very suggestive, being far better evidence upon which to base conclusions than the mere hypotheses of Northern observers; or the passing observations of travelers, who, of course, can take quinin for a few weeks or months.

There are cases innumerable in which the patient would die did we not add other potent drugs to our quinin, or for a time at least attach more reliance on other drugs than quinin, inevitably leading to the conclusion that although a true specific against the plasmodium of tertian and quartan fever, it is not a specific or antidote to the parasite of the more severe continued malarias and the toxins generated by them. With patients in whom the microscope has shown the disease to be malaria in any of its forms, quinin is a specific in all those with intermissions or with marked remissions; not so, however, where the fever is continued, or in those malarias with but little temperature.

In the continued fevers toward the last stages, marked remissions are apt to occur (in the milder cases); here again quinin becomes a specific. There are, however, exceptions even to this rule, for it is no uncommon thing to see a patient with intermittent fever to whom quinin has been properly administered, have a distinct malarial paroxysm with the ears ringing from quinin.

Dr. Plehn, a German physician practising in the Cameroons, on the west coast of Africa, and in what is probably the most malarious region on this earth, has observed that quinin is a good preventive, and the best for treatment in newcomers and those not long resident in that region, but in spite of five grains per diem, practically all foreigners get the fever, and the large majority die of it sooner or later. In all these cases, with the exception of the hematurias, quinin is given in enormous doses, with calomel (which, by the way, is never omitted) and stimulants, but while the actual paroxysm is overcome by the quinin (if the case be seen in time, or not too malignant), the spleen remains large, the crescents remain in the blood, and malarial anemia sets in.

What does this interesting observation show?

1. That quinin is a specific against the protozoön of tertian or quartan malaria.

2. That it inhibits, for a time, the development of the protozoön of pernicious malaria, but does not kill it; nor in time, even with quinin constantly taken, prevent its development, every time the patient catches cold, or is exposed to a particularly severe contagion.

3. That quinin alone has no action on the toxin produced by grave malarias over which calomel has twice the potency (at least in full physiologic doses).

4. That quinin even as a prophylactic cannot be indefinitely taken.

5. That quinin has no effect whatsoever on

* J. G. Van Marter, Jr., M. D., Savannah, Ga., in *Gaillard's Medical Journal.*

malarial anemia (really a chronic toxemia).

Another very interesting form of protozoal "malaria," beri-beri, is not cured by quinin, although slightly benefited for a time, if the febrile manifestations are sharp. In this malignant form of disease, the pigment bodies seen in our own malarias are deposited in the brain and other nerve tissues, and these pigmented bodies either before or after degeneration produce a toxin absolutely unaffected by quinin. In the recent epidemic at the Insane Hospital, Tuscaloosa, Ala., reported by Dr. Bondurant in the *New York Medical Journal*, it is stated that quinin failed in every case to do any good. It is to be regretted that special work on the etiology was not done, and establish the fact of direct relationship of the sporzoöns supposed to cause beri-beri.

Hemoglobinuria, a complication of malaria, is made worse by quinin. I believe that the great majority of those practising in countries where severe malarias exist will confirm the observation that quinin makes it worse. Thayer admits that quinin never shortens an attack of hemoglobinuria, but says it prevents a recurrence — this being an assertion without any warrant of experience, which I know to be wrong. Quinin is a frequent cause of hemoglobinuria, and after one attack, if quinin be taken, is very apt to cause the condition which Thayer says it will prevent.

In my experience the cases of malaria (as proven by the microscope) in which quinin failed to cure — hence did not act as a specific — have been confined to two types. First, and most common, severe malaria subcontinua typhoidea (an estivo-autumnal form), where the fever ran along for days with very slight remissions; and second, those irregular forms, sometimes seen where, with undoubted malaria, the fever of a continued type is low, seldom above 102°, and the symptoms presented are those of a profound toxemia resembling uremia, with suppression of urine, jaundice, delirium, subsultus, without chills or paroxysms of any kind.

There are cases of both types that would surely die, did we not add other drugs to our quinin, and that a large proportion of cases for a time at least are better off without it. In these types we have a toxemia to deal with, and it is just this toxemia which I claim is unaffected by quinin.

In treating these very severe malarial toxemias as we see them in the country or plantations just out of town, or if nearer, only in the suburbs, or in river sailors, we are placed at a great disadvantage as regards doing the best possible for our patients. Perhaps in these very cases if our patients could be moved away from an atmosphere whence constant reinfection is taking place, and taken to a grand hospital like the Johns Hopkins, in Baltimore, where the poor, even, can obtain luxuries, and be under skilled trained nursing, perhaps in such cases quinin might help, if proper eliminative treatment were added (for it would not without it); but how is it with us, the patient in a miserable hut, or poor farm house, not a bath tub in miles, no clean bed linen, no decent drinking water, no chance of proper food or good nursing, and an unalterable opposition to hospitals in general. It is in these cases that we have to practice, and if quinin were a specific they would all be cured before we ever saw them. They all take plenty of quinin dissolved in water, and with it calomel.

I have tried, in the severer cases, quinin intravenously, and must say that it does act well, that it is the only way to give it in the severest forms, but it does not shorten the course of the fever; it seldom breaks it up, as it should if it were a specific.

I was very much struck by the uniformly happy results obtained in severe medical cases by using the formula used by Woodbridge and others in the treatment of typhoid fever. In many instances I never used quinin from beginning to end of fever, commencing it in convalescence on two grain doses three times a day.

I believe that quinin is seldom properly administered. It is not the amount, but the way it is given that counts. Give it with an acid if the stomach will stand it, or else, if you still desire to give it by the mouth, give it in the effervescing form recommended by Burney Yeo. I quote from him as follows: "We may state in this connection, that we have found the efficacy of quinin in febrile states very much influenced by its mode of administration. If we prescribe the quinin dissolved in citric acid, and given in effervescence by adding it to an alkaline mixture, doses of two or three grains exert a powerful antipyretic influence far greater that that obtained by the same quantity of quinin given in the dry state. We have seen abundant reason to believe that in infective fevers, if quinin be given in saline solutions, it is the most active and reliable antitoxin we at present possess."

The use of a strong decoction of lemon in the early morning is a very useful remedy. There is one way of giving quinin by the mouth, of particular efficacy in many of the severe varieties, and that is Warburg's tincture, and, to my mind, it is a most excellent medicine.

I had a patient with occasional severe attacks of malaria, who, for some reason or other, never seemed to get the physiologic effects of quinin; in other words, he never had ringing in the ears. Thinking that the quinin was not being absorbed properly, although I had given it in various ways, I gave him several hypodermics, and failing in this, I put him on big doses of the Warburg's tincture, and strange to say, one ounce of Warburg's tincture made his ears ring. This extraordinary phenomena has often been a source of perplexity to me, and in reasoning about it, have come to the conclusion that something in this compound may act in a slight measure as an antitoxin, or in some way so mod-

ify the chemistry of the blood, as well as the activity of the glandular and eliminative system, as to give quinin a chance. Is it not true, perhaps, that quinin meets with resistance in the blood which is in some way modified by that complicated mixture — Warburg's tincture?

Warburg's tincture should always be given, as recommended by the experienced practitioners in India, after a brisk purge, undiluted, in doses of half-ounce, all drinks withheld, repeated in three hours, and the patient carefully rolled up in blankets to encourage the profuse aromatic perspiration which follows. It is one of the most powerful diaphoretics known, it is also a diuretic, a stimulant and a purgative. I always follow its use by opium, and small doses of whisky, at least never omit the opium, which I believe acts most happily. Our American preparations of the liquid do not act as well as the English.

Quinin by the rectum, I do not favor, and inunctions are very uncertain, but I am a great advocate of the hypodermic method. In giving quinin subcutaneously, use it in free solution, and do not stick to your small hypodermic syringes. I am now using what is usually called an "antitoxin" syringe with a 16 c.c. capacity. By making a very dilute solution more quinin is promptly absorbed, and there is absolutely no danger of abscess or painful inflammations. You should not use an acid to dissolve the quinin, as is advised by most writers, for it is not necessary and has very painful results. The dihydrochlorate and hydrobromate of quinin are the salts best adapted for such use, and also for intravenous injection. The water should be hot, about 100° F., and the needle sharp. Whenever in any case of malaria the gastric symptoms are marked, and this is frequent, use the hypodermic method in the commencement. You are then sure that the patient is getting all the quinin you want him to have promptly, and without additional burdens on the stomach. I have never seen but two abscesses (and they were not in my practice) from hypodermic injections of quinin. One was due to an excess of acid, the other to a filthy syringe. Don't inject in the arms. The belly wall is a very handy place to inject your solutions, and this never bothers the patient, like it does in the thighs or back. Use from eight to ten grains at each injection, and if the quinin does not work promptly don't pin too much faith in it, nor that absurdity called the therapeutic test—a relic of barbarity.

The technic of intravenous injections of quinin is simple, but I find a good deal of hesitation amongst a great many physicians as to its use. Fear of its difficulty, of slipping up in asepsis or admitting air in the veins; all points easily avoided and overcome. Having been brought up on this method of using quinin, and having seen its development in the Santo Spirito Hospital, Rome, in the service of Baccelli, I have had very good opportunities of seeing it practised.

We get by an ordinary injection what for the blood is a very large amount (fifteen grains), and I honestly believe that if we could see our cases early enough, all cases of pernicious malaria of a fulminating type could be saved; but, alas! we seldom see them early, for such cases come in town from the country "in extremis" — this at least is the common experience in Rome. Once the plasmodia have had time to fully manufacture their toxin, it is too late to rely on quinin. As, however, I have seen several cases recover after intravenous injections in the last stages, you may ask how it is that they did not die too. I attribute a good share of some (not all) the recoveries to the happy effects of quinin, but some are due to the salt solution injected at the same time. It has never yet been done by control experiments, but I have no doubt that if you gave some of these cases a large intravenous injection of normal salt solution, say twenty ounces, and no quinin, you would get as good results as you could by quinin. I know, from experience, that this will start secretion in the kidneys, the only channel by which the poison escapes in this condition. Any observing man whose misfortune it has been to have a number of severe pernicious malaria cases in his practice, will agree with me when I state that if you can set up diuresis, sweating and purging, while vigorously stimulating the patient, he is apt to live, quinin or no quinin; and on the other hand, without this, but all the quinin you please, the patient will die. It is the common experience we have with every poison from malaria to rattlesnake bite.

Let us not say a thing is so because the books written by great teachers say it is so. Let us observe, reason, and then if we are not satisfied of the accuracy of a statement let us say so. The last words have not yet been spoken on the specific action of quinin in malaria in our climate, and in the same breath I will say the book on malaria has not yet been written. I know quite well that there will be wailing and gnashing of teeth over the presumptuousness which could question the specificity of quinin, but the truth will out, and I feel confident that many will agree with my views on this subject.

My conclusions are:

1. As a preventive quinin will not do for those who are compelled to live indefinitely in a severe malarial climate; in time acting as a vasomotor poison.

2. Quinin acts nearly as a specific in all malarial fevers characterized by intermissions or well-marked remissions, but fails in the continued fevers, those with typhoid-like symptoms, those malarias without temperature, and the cachexias and anemias due to malaria.

3. This proves that quinin is a poison to the

plasmodium itself, but useless against the toxin manufactured by it.

4. Warburg's tincture in the last condition has an action not yet understood, on the toxin (or the eliminative system) by which the system is put in condition to benefit by quinin.

5. Quinin should never be used in hemoglobinuria, or given subsequently, to one who has suffered from it, being liable to bring about a recurrence of the condition.

6. Only those living in regions of severe malarias can become competent to settle these questions pro or con.

MAN AND HIS TOXICITY.*

Man is earth's rarest and most complicated product, and, chemically considered, he is a living, working laboratory, generating toxic agents of greater variety and virulence than is derived from any other source. Man carries his poisons, like his superiority, upon his inside, and as a general thing his hereditarily enforced toxicity is more dangerous to his individual self than he is to others.

No problem in life presents greater wonders than when it is considered that within man, in the process of his living, the most violent poisons of earth are produced, and still under the resistant influences of the normal functions of life are rendered harmless and innocuous. Man's toxicity presents a constant and endless series of problems, many of which are far from the pale of our knowledge. But as the subject is investigated a broad and bewildering field of suggested possibilities present themselves. The ancient theory of morbid sympathy is now giving way to the more modern and scientific conception of auto-intoxication. There is no doubt that disorders are produced by the exaggerated formation or retention of normal poisons in the system. Many acute forms of insanity, especially melancholia, are the result of auto-intoxication.

Thus Regis says: "Attention has hardly been given to other than the auto-intoxication alone in the insane, and especially those that have for their point of departure the digestive tract and its annexes." The theories of Bouchard, however, in regard to general disorders from retardation of nutrition, seem equally applicable to the pathogeny of certain so-called diathetic forms of insanity, particularly those sometimes engendered by arthritism, besides general paralysis from congestion. Charpentier admits the existence of another group of general paralysis from intoxication, in which he ranks those due to gout, diabetes and arthritism. "For my part, I have observed one very clear case of hereditary arthritic insanity, with uric retention, androsis and manifold trophic disorders, in which the insanity, incontestably due to the effects of retarded nutrition, constantly followed the oscillation of the diathotic intoxication."Again, M. Arloing has explicitly and strongly indicated the extreme toxic nature of ordinary sweat. The assertion is plainly made and upon well-argued bases, that the skin habitually excretes toxic substances.

Dr. Walsh of Edinburgh, in reviewing the assertions of Arloing, says:

"Briefly put, this theory of excretory irritation suggests that a large class of skin rashes are the direct result of the excretion of some irritant from the blood. The irritant may be in the form either of a drug, as arsenic, of a specific microorganism, or its products (exanthems or antitoxin), or of other poisons introduced from without or elaborated within the body (ptomaine poison or gout). All, or nearly all, internal agents that cause a dermatitis are capable of inflaming other channels of exit of waste from the body as the lungs, kidneys, or bowels. * * * In other words, a blood-borne irritant agent that is capable of inflaming the skin may also attack vicarious routes of excretion. The time-worn illustration of a knot of persons exposed to some common injurious condition of environment, but who suffer therefrom in different ways, is familiar enough to medical readers. Four men, say, are immersed in a stream; as a result, one develops coryza, a second pneumonia, a third nephritis, and a fourth rheumatism. Let it now be supposed that four men suffer in those various ways after exposure to a draught of cool air, while sweating freely. Let it also be assumed that sweat normally contains, as M. Arloing asserts, some energetically poisonous substances, occasioning more or less derangement to all parts of the organism, disturbing the intimate phenomena of nutrition, modifying the composition of the blood substances, the properties of which possess a strong analogy to certain microbic toxins." The sudden suppression of the sweat is likely to force these "normal" toxic materials back upon the blood, and the stress of their elimination must then necessarily fall upon other eliminatory organs, with such possible or probable results as nephritis, pneumonia and other excretory inflammations.

As we have already stated this subject presents problems of great importance, and plainly influences every branch of the medical art, and especially surgery. And we do not know of any branch of surgery wherein it has any more direct and important relation than it does in the surgery of trauma, and particularly where shock is so often an attendant. Shock is a depressant and a suppressor of normal function, and courts the generation of toxic substances and their nonelimination. Auto-intoxication is just as truly a surgical subject and belongs to this realm as much as it does to internal medicine, and the successful surgeon will be compelled by adverse circumstances arising to study as deeply the subject of auto-intoxication as the alienist and neurologist because almost upon the threshold of his

* EDITORIAL in *Railway Surgeon.*

treating any case successfully, he will be compelled to guard against the possibilities of fatal auto-intoxication.

One of the finest chapters in Roswell Park's Surgery is auto-infection as regards surgical patients. While he notes the fact that the subject of auto-intoxication has been too commonly relegated to the domain of internal medicine, he says: "This is a most sad and grievous error, however, and that surgeon will prove himself the best master of the situation who is thoroughly conversant with all that the general topic of auto-infection comprises and implies. For he will find that his surgical patients do well, or badly, just in proportion as he maintains equilibrium between ingestion and egestion, or as he realizes that retained excrementi products are among the most active predisposing causes of what may a little later appear as distinct surgical sepsis."

A neglect of a proper study of the organs of elimination, the proper action of the kidneys, a correct performance of the hepatic function, an overloaded intestinal tract, all are menaces to any injured individual. There is no doubt that what has been attributed oftentimes to septic conditions without have arisen from engendered auto-intoxication within; hence all the precaution available, as regards outside septic conditions, are to little purpose when toxic conditions within the patient are ignored.

ONE OF THE RARER FRACTURES AND DISPLACEMENTS CONNECTED WITH THE ANKLE.*

Since a fracture which has hitherto been of, comparatively speaking, rare occurrence seems likely from its method of production to become more common now that cycling has taken such hold of the public, both as a healthful exercise and as an almost indispensable aid to locomotion, a short account of the following accident may be of interest.

A man, about forty years of age, was cycling in damp weather on an asphalt road which was in a greasy condition as well as in a bad state of repair, when, on trying to avoid a hole in the road, he met with a "side-slip," his left foot, as he fell, quitting the pedal and becoming lodged in the frame of his machine, the wheel and pedal continuing to revolve; the latter struck his foot while in this position. The following was the condition of the foot and ankle when I saw the case, almost immediately after the accident:

The foot was displaced backwards and strongly inverted, the outer border pointing directly downwards; the outer malleolus was very prominent and the inner could not be felt satisfactorily, being almost entirely buried; the foot was shortened in front, the tibio-fibular arch being thrown to the front, making a marked projection upon the inner side of the foot. On reducing the dislocation marked crepitus was obtained over the internal malleolus. A careful examination was made along the whole length of the fibula.

Pressure applied at various places along the bone ranging from the head to the internal malleolus gave rise to no pain; neither could crepitus be elicited nor irregularity felt along its whole length, though it was difficult to understand how it could have escaped fracture with such a displacement of the foot.

Six days after the accident I had the ankle skiagraphed and on examining the skiagram the internal malleolus was seen to be torn off close to the shaft and to have been replaced in very good position while an oblique fracture of the fibula just above the malleolus was clearly defined. There being not the slightest tendency either to inversion or eversion of the upper end of the lower fragment the difficulty of diagnosis will be readily appreciated. The patient may be congratulated on having narrowly escaped a compound fracture, since the external malleolus was perilously near making its way through the surrounding tissues.

* Frederick Brooks, M. R. C. S. Eng. in *The Lancet.*

Book Reviews.

International Clinics, Vol. 1, Eighth series, J. B. Lippincott Co., Philadelphia, April, 1898.

The present volume is remarkable for its symmetry, the different divisions of medical and surgical art being well represented by eminently practical articles. The disposition to report unique cases and the attempt to follow the clinical form rigidly, even when clinical presentation of cases was manifestly impossible, has been largely outgrown by the contributors to this excellent quarterly magazine of medical progress. The clinical teaching of therapeutics, something that has been much neglected in the past, is exemplified in the first section of the book, by Jacoud's lecture on the contra-indications to sodium salicylate, by Nestor Tirard's study of digitalis as a diuretic and by J. S. Todd's synopsis of four lectures on opium. A. L. B.

At the French Congress of Alienists and Neurologists M. Lapointe (*Méd. Mod.*) reported a case of **dementia paralytica** in which the duration of the disease had been unusual, and in which the cardinal symptoms had gradually disappeared and been replaced by simple dementia. The autopsy verified the diagnosis after the disease had lasted fifteen years. (M. Vallon, in discussing the report, said he had seen similar cases verified by autopsies, and considered that the maniacal form had frequent remissions, but that the demented form had none. An important prognostic sign was the losing of flesh by the patient, which indicated a rapid course of the malady; an increase of weight, on the other hand, usually was a sign that the patient would live a long time. Voison and Séglas had observed cases lasting 15 to 20 years, with marked symptoms of general paralysis during the whole of that time. Dontrebente and Régis thought that the diagnosis in such cases was very likely to be confused with that of disseminated sclerosis, cerebral, syphilitic or chronic alcoholism.—*Jour. Nerv. and Men. Dis.*

SOCIETY REPORTS.

PHILADELPHIA PEDIATRIC SOCIETY.

Stated meeting, April 12, 1898, Frederick A. Packard, M.D., President, in the chair.

Dr. W. P. Northrup, of New York, addressed the Society upon the subject

Tuberculosis in Children.

DISCUSSION.

Dr. A. C. Abbott.—The evidence that Dr. Northrup has presented for the air passages being the most frequent channel of infection is very strong. I confess that I am somewhat surprised to learn that it is so much more frequent in children than infection by the alimentary tract, which I had hitherto thought more frequent than by the lungs. All who have had experience in the post-mortem examination are aware of the very great frequency with which evidences of pulmonary tuberculosis are encountered in individuals who have died of other diseases and the lungs must be regarded as a very frequent portal of infection in this malady. I have always regarded the alimentary tract as a more frequent portal of infection than the lungs in tuberculosis in infants.

An infant infected by way of the alimentary tract becomes infected through its food and the food of that infant is principally milk, but I am not prepared to believe that milk is so frequent a carrier of tubercle bacilli as is sometimes claimed. I am forced into this attitude in part from my own investigations and in part from the investigations of others and so far as I can gather the question is still an open one and it cannot as yet be positively settled.

Dr. James Tyson.—I am totally unqualified to discuss the matter of the relative frequency of tubercular inoculation by the intestine and respiratory tract in children, but it always seemed to me that the proposition which Dr. Northrup has apparently proven was that which was natural. Of course we cannot fail to admit that the alimentary tract is more vulnerable in children than in adults, since their digestion is so much more delicate. In the case of adults, however, my experience agrees with his. Years ago, when I made and saw more autopsies than I do at the present day, it was always a surprising fact to me that the cases of intestinal infection even with the previous presence of pulmonary tuberculosis were so rare in the autopsy room, supposing, of course, as I believe is the case, that the infection in those cases takes place largely from swallowed sputum. Further, the cases of primary infection of the alimentary canal were almost nil. I presume a certain number of the cases of tubercular peritonitis unassociated with tuberculosis elsewhere, have been infected or produced, in this way.

Dr. A. D. Blackader.—The subject is one of much interest to all physicians. Some of the facts we have lately noted in Montreal appear to corroborate Dr. Northrup's statement that the chief path of entrance of this bacillus is through the respiratory passages. An investigation recently undertaken in the pathologic laboratory of McGill University has failed to reveal the evidences of the contamination of the milk of tuberculous cows by tubercle bacilli to anything like the extent which we had previously been led to expect might occur. Children brought up in our foundling hospitals have shown a comparative freedom from tuberculosis. This may possibly be ascribed to the immunity which the period of infancy appears to confer—possibly also to the fact that they are less exposed to infection through the respiratory tract. For some years past I have been a convert to Dr. Northrup's views, and have believed that in a large majority of cases the bronchial glands played an important part in tubercular infection, but I was not prepared for such a preponderating majority as Dr. Northrup has met with in his series of cases.

Dr. J. H. Musser.—I must confess I have a somewhat different impression in regard to tuberculosis than I had before. Clinically I have seen so few cases of pulmonary tuberculosis in children and have had no opportunity of seeing autopsies, except in adults, so that I cannot fully substantiate that which had clearly been my impression, that pulmonary tuberculosis in children is a rare expression of the tuberculosis disease. Of course, notwithstanding the fact that the bronchial nodes are the frequent source of entrance of infection, pulmonary tuberculosis may be nevertheless, rare. In my experience in children tuberculosis of the mesenteric glands and of the intestinal tracts is more common than tuberculosis elsewhere. Other forms, as pulmonary and especially meningeal tuberculosis, were usually secondary to tuberculosis of the abdominal tract. In a series of some 15 or 18 cases of meningitis that I reported some time ago there were in the large majority evidences of primary tuberculous disease of the intestines or of the peritoneum. This does not, however, exclude the fact that there may have been primary infection of the bronchial nodes, the infection spreading from thence to the more evident site—the gastro-intestinal tract. Therefore it cannot remain as a positive statement.

I was very much interested in one or two features of the exposition and particularly the pictures which showed the growth outwards of the lymph glands and infection of the lungs in the middle of the lobes. As we know, so frequently the first signs are not always at the extreme apex, but at the upper limit of the lower lobe and this picture so beautifully illustrated the mode of infection from these lymph nodes to these situations. I never had an opportunity of seeing it so beautifully displayed. That interested me particularly in connection with the diagnosis of phthisis, the earliest signs being found opposite the lobe edges, particularly in the left lung. It is curious to hear Dr. Northrup's experience, which is quite at variance with some observers, certainly at variance with the large group of feeding experiments which have shown the entrance of infection by the intestinal tract and at variance with the statements of Coats and Woodhead. It has struck me that there may have been some limited mode of infection in the group of cases that Dr. Northrup has seen. Is there no other way infection could have taken place than by the respiratory tract? Certainly we must feel that there are cases that are infected by the intestinal tract and peritoneum. It would be interesting if Dr. Northrup could tell us the probable source of infection in these cases. If I understand correctly, all of these cases were from one institution.

Dr. M. P. Ravenel.—It is with a great deal of diffidence I speak of Dr. Northrup's conclusions. Practically, I have had almost no experience in post-mortem examinations. As Dr. Musser has pointed out, these cases seem to be all from one institution and Dr. Northrup's experience has been so much at variance with that of observers in other parts of the world that it seemed in these cases there must have been some particular factor acting.

Take, for instance, Dr. Sims Woodhead's findings, out of 127 children he found tuberculosis of the mesenteric glands in 100, with ulceration of the intestine in 43. Again in a recent article by Prof. Pfluge concerning infection by dust, he calls attention to the fact that in a large number of inhalation experiments results were absolutely negative though with identically the same material with which these inhalation experiments were made, tuberculosis was easily produced by ingestion or inoculation in animals. Again, in many

cases we find feeding experiments with milk will produce tuberculosis.

This discussion was opened by the first speakers in a way that would seem to imply that it was only by means of milk that the intestinal tract could become involved, but as Dr. Flick has well pointed out, in many children acquiring tuberculosis they do so at the age when the child is beginning to crawl about on the floor, and may convey to the mouth particles of matter containing tubercule bacilli. Bolitz called attention to the fact that of 2,576 children sixteen per cent. of which died of tuberculosis, not a single one showed the disease before the age of four weeks, from three to five months there were 8.6 per cent., from six to twelve 18 per cent.; the greatest number, excepting for a period of five years, namely from five to ten years of age was between two and three years, when it reached thirty-three per cent.

As Dr. Flick has pointed out, also, in this connection, there are houses in which tuberculosis remained for generation after generation. The children have gotten it in crawling on the floors from the dust held in cracks and crannies. The question of tuberculosis by milk is one I believe in most thoroughly, though absolute proof is lacking, but it is not the only means, the dust of pulverized sputum from the floors is a most important factor also.

Dr. J. P. Crozer Griffith.—About thirteen years ago I made an autopsy of a child of two or three years, perfectly healthy previously, and dying after a short illness of pneumonia. The diagnosis was croupous pneumonia, and the autopsy showed croupous pneumonia, but I remember my astonishment in finding large cheesy bronchial nodes which contained tubercle bacilli and a large tubercular necrotic spot in the pneumonia. This happened to be the first instance that I had seen of the thing. That child had tuberculosis of I know not how long standing. It did not die of tuberculosis. There was in the body no sign of tuberculosis, except this.

My attention has been directed to that condition ever since and although I am unable to give actual statistics, my impressions certainly bear out the statements made by Prof. Northrup, that the infection in the great majority of cases is by the bronchial lymphatic glands. Although seeing a good many autopsies I cannot recall any case in which tuberculosis was certainly primary in the intestine.

It has been proved not only that tuberculosis often starts in the bronchial lymph nodes but that the disease may lie dormant there, perhaps for years, ready to advance rapidly to the lungs under favorable conditions.

Dr. Alfred Stengel.—In regard to the question of conveyance of tuberculosis to children or to adults through the gastro-intestinal tract, I should not like to have my preconceived opinions in this matter disposed of too rudely. If it is true that infection through the intestinal tract is as frequently the cause as some would have us believe, the subject is one of enormous importance in questions of public health and to dispose of the notion might do incalculable harm. In taking the evidence that Dr. Northrup has brought before us at its face value, it may be well to question ourselves regarding the interpretations to be placed upon it. One thought occurred to me, namely, that it does not absolutely follow that tuberculous lymphatic glands of the post-bronchial region are necessarily due to respiratory infection. I don't know how often it may be otherwise, but am inclined to think it may be more frequent than we are disposed to believe at the present time. For example, infection through the gastro-intestinal tract may possibly give rise to primary post-bronchial tuberculosis for the bacilli may be taken up through the portals of entrance, by the lacteals and be carried to the lymphatic circulation and enter the lung. As these children are not strongly susceptible to tuberculosis, the bacilli do not generate tuberculosis. but are carried away in the lymph streams to the roots of the lung. That it is possible for infection to occur in the gastro-intestinal tract, Dr. Northrup admits when he states there are some six cases in the experience of himself and associates. How much oftener it occurs without any peritoneal lesion would be difficult to establish. A second thought is suggested by the fact that the post-bronchial glands drain a large area including the pleura and the neighboring membranes. The experiment of oculation through the mouth referred to in the paper proves what the investigations of a number of investigators, particularly French pathologists, have shown, viz.: that infection through the mouth causing lymphatic tuberculosis, is much commoner than we thought. In a considerable series of cases of lymphatic tuberculosis of the neck it has been found that there has been in all probability primary infection through the tonsils and in several cases other lesions of the mouth. The resulting lymphatic tuberculosis of the neck may secondarily infect the pleura or superficial portions of the lung by continuity. These two ideas occur to me, first, the one regarding the possibility of invasion, as Weigert pointed out long ago, with respect to desseminated acute or miliary tuberculosis, from the abdominal organs and through the thoracic duct and its tributaries without involving the lung, and second that infection may occur through the mouth and pharynx; third point of interest is this, that we may be misled in regard to the age of a tuberculous lesion. Pathologists find this true, of genito-urinary tuberculosis in particular. The same thing may be true of these bronchial lesions; a very small lesion of the lung or a very small lesion of the mucous membrane might easily be overlooked or may heal, while the resulting lesion, a post-bronchial tuberculosis, might remain and some day be the primary focus of secondary infection.

Dr. Edwin Rosenthal.—I am of the opinion that the inoculation of the system starts from some of the lymphatic glands. Some years ago, I was physician to a little home to which were brought foundlings and other infants. I performed the post-mortem upon those that died and I remember three instances in which there were tubercles of the peritoneum, but the lungs were entirely free. The lymphatic glands in the neck and elsewhere were enlarged, and showed evidence of degeneration.

Dr. Seabrook.—Some years ago I was connected with an Indian school and amongst these children there were a number of Apaches. In several of the autopsies that were made in children under ten years of age we found extensive tuberculosis of the mesentery and peritoneum and very few, if any, traces in the thoracic cavity.

Dr. Northrup.—We do not stir up a pure culture for the babies to breathe. We have 2100 children under the care of the institution at present, 1200 of which are out in the city and environs boarding. They are not creeping on our floors; they are not creeping on some body's else floors. They are not taking our milk, they are taking corner grocery milk, or whatever kind of milk they can get. Twelve hundred children represent 1,000 care-takers. Though it is a large family they are subjected to all the varying environments you could wish to make the experiment fair. We have about 1,000 souls in the block. Of these two-thirds are nurslings, one woman nursing two children. The milk of the others is pretty carefully watched. Some of the other children are over three years old, and they have stood the outside environments and have come back alive. The hospital is for the sick from the house and from outside. These are the babies we have been making our autopsies on.

I would like to ask Dr. Abbott a question: Is it not very difficult to find culture material in the laboratory on which tubercle bacilli will grow?

Dr. Abbott.—That is my experience. I found always considerable difficulty in getting a pure culture of the tubercle bacillus from the tissues of a dead animal.

DR. NORTHRUP.—That is what I understand. It is a very difficulty thing to cultivate them in artificial surroundings. Tubercle bacilli require not only a good culture medium but uniform temperature. They are surface-powers and will not grow in fluids under the surface and without air. Again, we have had no cases of congenital tuberculosis. There have been cases reported where in the blood stream of a child taken from the mother by Cesarean section there were tubercle bacilli. There has been a good deal of manipulation in these children through squeezing and pulling. I have not been told that any of these showed tuberculous lesions in the child. And it may be that the child may acquire the disease from the tuberculous placenta and the womb. I had a child fifty-one days old which died of tuberculosis, its mother having had huge cavities in both lungs and dying soon after the birth of the child. But when a child's food is prepared never so carelessly it is not a favorite brood culture for the tubercle bacilli. Dr. Abbott and Dr. Trubeau has been able to succeed in making tubercle baccilli grow in a flask, but if a cow drops into her milk six tubercle bacilli they remain six bacilli.

I take it that a child may take care of a certain number of bacilli. That is one of the reasons I think the milk that has tubercle bacilli in it is not necessarily fatal. I do not want to convince you that milk should not be well taken care of. I purposely withheld my facts and figures for a long time because I did not wish to stem a tide which had set in the right direction. Everybody should favor cleaner milk, better milk, milk which contains fewer bacteria. While I was working at this question of the portal of infection I called the attention of some of my friends to the above facts and at the very next autopsy they said, "Where are your bronchial glands," and "I did not find them around the root of the lung." I gave the specimen a little washing and began at the top to cut down seriatim and the knife soon came on a chalky mass, 1½ inches by three-fourths inch in size, flattened against the trachea. The demonstration as to the earliest lesion was accepted as satisfactory. My successors have rather favored the other theory but they have found that the oldest process is pretty apt to be the bronchial lymph nodes. I do not know anything about the tonsils in children. The children I have examined have been, as a rule, under two years, or three. I have looked at a great many of them and they have normal tonsils so far as I noted.

DR. A. F. TAYLOR.—I have missed my reference to the tonsils and I would like to ask Dr. Northrup whether, in his thirteen cases of pure lymphatic infection of the bronchial nodes, a tuberculous infection of the tonsils was specifically excluded?

SECTION OF OPHTHALMOLOGY.

Philadelphia College of Physicians and Surgeons. Meeting April 19, 1898, Dr. Charles C. Harlan, Chairman, in the chair.

DR. WENDELL REBER reported, by invitation, three instances of **Microphthalmos with Excessive Hyperopia and Macular Anomalies** occurring in sisters.

(See page 191.)

DISCUSSION.

DR. EDWARD JACKSON had seen a number of cases of hyperopia of almost as high a degree as those described, but none higher. In one case the correcting lenses were: R. + 14, () + 2, Cy. Ax. 180°. L. + 13 () + 2, Cy. Ax. 180°; the greater radius of curvature for each cornea being 7.85 mm. He recalled no case of squint with hyperopia of 10 D. or upward, although intermittent squint was very common with hyperopia of from 4 to 6 D. Dr. Risley suggested that the squint in the cases described probably was due to the macular changes quite as much as to the hyperopia.

DR. LOUIS F. LOVE presented, by invitation, a case in which a **Foreign Body was Successfully Located by the X-rays and Removed by the Magnet.**

(See page 190.)

DR. GEO. E. DE SCHWEINITZ reported a **Piece of Steel in the Vitreous Located by the Roentgen Rays According to Sweet's Method and its Removal with the Electro-magnet.**

(See page 190.)

DR. EDWARD JACKSON urged the advantages and safety of **Illumination by Direct Sunlight for Ophthalmoscopic Examination** in certain cases.

(See page 191.)

DR. DE SCHWEINITZ reported a case of **Partial Optic Nerve Atrophy and Central Scotomas (So-Called Central Amblyopia), Apparently due to Chronic Lead Poisoning** in a house painter, aged 35, whose failing vision was found to be due to a partial atrophy of each optic nerve, associated with central scotomas of the relative type. The ordinary constitutional causes of retrobulbar neuritis were not present, neither could the scotomas be attributed clearly to tobacco or alcohol, which had not been used by the patient for some time before his examination. Both qualitative and quantitative examination of the urine revealed the presence of lead, 8 mg. of the pure metal having been obtained from a 24-hour specimen. The only other symptom of chronic lead poisoning was persistent constipation. There was neither a blue line on the gums nor a blue patch on the mucous membrane of the lips.

Dr. de Schweinitz reported another case of partial atrophy of the optic nerves with central scotomas, relative in one eye and absolute in the other, and with the ophthalmoscopic appearances of atrophy and well-marked perivasculitis of the retinal vessels for which no adequate cause could be found. The man had been a house painter, but the examination of the urine failed to reveal lead. There was, however, a blue line, somewhat faintly marked, around the lateral incisors of the upper jaw and the left lower canine tooth. No other symptom of chronic lead poisoning was present, and the gingival line was too faint to be pathognomonic.

DR. C. A. VEASEY reported a case of **Central Amblyopia in a Dye-Worker, Probably Produced by Inhalation of the Anilin Dyes.**

(See page 189.)

DISCUSSION.

DR. HARLAN remarked that the absence of lead in the urine is not proof that lead amblyopia is not present.

DR. GEORGE FRIEBIS exhibited a patient on whom he had operated by **Iridectomy for Large Central Corneal Leucoma** and anterior synechia, the result of extensive ulceration in ophthalmia neonatorum. Vision had been improved from counting fingers at 1½ m. to 5-30.

DR. HOWARD MELLOR reported, by invitation, two cases of **Retained Sheath** of the **Hyaloid Artery,** in one extending from the disk to the lens.

(See page 189.)

DISCUSSION.

DR. VEASEY recalled a case of persistent hyaloid artery extending from the disk to the lens, in a woman 22 years of age who had 18 dioptres of myopia with a large posterior staphyloma and considerable disturbance of the choroid. The hyaloid artery extended from the central artery of the retina, as it emerged from the physiologic cup, in a zig-zag manner, as far forward as the posterior pole of the lens. At each of the angles there was a number of filaments given off that looked as if they might have been shriveled branches. The

patient's vision was so bad that no field was taken. No pulsation could be produced in the artery by pressure. Dr. Risley had seen many cases that have not been published, and he considered the retained nerve-sheath as rather a common condition. Dr. Jackson confirmed Mittendorf's statement, that the commonest form, occurring once in 40 or 50 patients, is a dark speck on the posterior lens capsule. The distinct vessels and surrounding tissue are comparatively rare.

Formulæ.

For Chapped Hands and Abrasions.

℞ Euthymol..... oz. ii,
Glycerini..... oz. i,
Aquæ rosæ..... oz. iii.
M. Sig.—Apply locally thrice a day.—*Ex.*

Seborrheic Eczema.

℞ Pyrogallol. oxydat..... 5.0
Vaselin .....
Adep. lan., aa..... 25.0
M. Ft. Ungt. Sig.—To be rubbed into the skin twice a day.—UNNA.—*Pediatrics.*

Eczema.

℞ Formalin 0.25
Zinci oxid.....
Talci, aa..... 25.0
Vaselin *ad*..... 100.0
M. Ft. Unqt. Sig.—For external use.—*Monatsh. f. Dermatol.*

Cough in Phthisic.

℞ Terpin hydrate..... dr. j.
Glycerin ..... oz.
Make in solution and add
Codein sulphate..... gr. ij.
Syrup of Tolu sufficient to..... oz. iv.
M. —*Cleveland Journal of Medicine.*

Diuretic Pill.

The following pill is highly recommended in cases of dropsy of cardiac origin:

℞ Scillæ, pulv.,
Digitalis, pulv.,
Caffeinæ citratis.....aa grs. xxx.
Hydrag. chlor. mite.....grs. v.
M. Ft. pil. no. xxx. Sig.—One pill three times daily, after meals.—*Canadian Practitioner.*

For Acute Colic.

For the acute colic so frequently met with, resulting from indiscretion in diet, try the following:

℞ Chloroformi.....dr. jss.
Tr. opii deodorat.....dr. j.
Camphoræ .....grs. xv.
Ol. cajaputi.....dr. j.
Aquæ.....q. s. ad. oz. ij.
M. Sig. Teaspoonful every hour or two.—*Med. Rec.*

For Vomiting of Whatever Origin.

The *American Medical and Surgical Bulletin* quotes the following from a German exchange:

℞ Sod. Sulphate, 5 gme;
Aromat tincture, 3 gme;
Syrup, 15 gme;
Water to make 200 gme.
M. Sig. One spoonful.

For Falling of the Hair.

℞ Resorcin.....gr. xl.
Glycerinæ..... m. x.
Alcoholis.....ʒss.
Aq. dest..... ʒ iijss.
M. Sig. For external use. Apply freely.—STETWAGON.

For Vomiting of Uterine Origin.

Menthol .....5 grains.
Elixir of pepsin.....1 fluidounce.
Tincture of opium.....2½fluidrams.
Dose:—Ten to twenty drops, to be taken before meals.—LUTAUD.

Gonorrheal Rheumatism.

℞ Ext. colchici acet.....
Ext. opii aquos.....gr. xv
Potass. iodid.....ʒ iv
Potass. acet.....ʒ ij
Aq. dest.....ʒ iiiss
Vini albi.....ʒ iv
M. Sig. gtt. xx t. i. d.

2 ℞ Ext. colchici acet.....gr. x
Pulv. ipecac. comp.....
Pulv. digitalis.....
Ext. colocenth. comp.....aagr. xj
M. et. ft, pil. No. xii. Sig. One pill twice or thrice daily. (Where the more acute symptoms have subsided.)—HALFORD.

3 ℞ Vini colchici sem. .....ʒ iij
Spir. ammon. aromat.....ʒ xiij
M. Sig. ʒ j every three hours, in the acute form.—BARTHOLOW.

4 ℞ Lithii carbonat. vel. citratis....℈ v
Aq. dest.....ʒ xx
M. Sig. Apply by means of lint, especially if the skin is unbroken.—GARROD.

5 ℞ Lithiæ citrat.....
Magnes. carb.....aa ʒ j
M. Div. in chart. No. vi. Sig. One twice daily in chronic gout.—CARPENTER.

6 ℞ Veratrinæ .....℈ j
Adipis .....ʒ j
M. Sig. Apply to painful joint at onset. (Not when the skin is broken.)—TURNBULL.—*The Prescription.*

For Pertussis:

Tincture of belladonna..... 2 fluidrams
Phenacetin ..... 1 dram
Brandy ..... 3 fluidrams
Fluid extract of chestnut-leaves....12 fluidrams
Dose:—Ten drops from every 2 to 6 hours for a child 1 year of age; a child 10 years of age may be given as much as a teaspoonful.—LANCASTER.

For Malaria in Children:

Tincture of eucalyptus..... 2½ fluidrams.
Dilute alcohol..... 2½ grains.
Quinin hydrochlorate.....30 grains.
Quinoidin .....30 grains.
Dilute hydrochloric acid sufficient to make solution.
Dose:—From 20 to 40 drops in sweetened water 5 times a day.—ZUCKERMANN.

Aphthous Stomatitis:

℞ Borax ..... 1 drachm.
Tincture of benzoin..... ½ drachm.
Distilled water..... 3 drachms.
Simple syrup..... 6 drachms.

Apply five or six times a day.

Or—

℞ Salicylic acid..... 30 grains.
Alcohol ..... 3 drachms.
Glycerin ..... 6 drachms.

If the case is a grave one it may be wise in addition to order the following prescription for internal use:

℞ Chlorate of potassium..... 15 grains.
Distilled water..... 3 ounces.
Syrup of raspberry..... 2½ drachms.

A teaspoonful every two hours.—*Journal des Praticiens.*

For the Administration of Codliver-Oil:

Codliver-oil ..... 12 fluidounces.
Sirup of tolu..... 6 fluidounces.
Tincture of tolu..... 12 drops.
Oil of cloves..... 2 drops.

At the moment of administration the mixture is to be well shaken, and a tablespoonful taken two or three times daily. Taken in this manner the taste of the aromatic sirup only remains after the ingestion of the oil.—BRICEMORET.

To Stop Falling of the Hair:

℞ Hydrochlor. quinin..... ʒ j.
Tannic acid..... ʒ ij.
Alcohol (70 per cent.)..... ℥ iss.
Tinct. of cantharides..... ʒ iiss.
Pure glycerin..... ʒ iss.
Aq. cologne..... ʒ x.
Vanillin ..... gr. ij.
Pulv. sandal-wood..... ʒ j.

This mixture, after being well mixed and shaken, is allowed to stand for four days and is then filtered. It is rubbed into the scalp daily for the purpose named.—*Revue de Therapeutique.*

Gargle for Quinsy Sore Throat:

℞ Creosote ..... gtt. viij.
Tinct. myrrh..... ʒ ij.
Glycerin ..... ʒ ij.
Aq ..... ʒ iv.

—*N. Y. Medical Journal.*

Garfield Tea.

The *Standard Formulary* gives the following as the approximate composition of "Garfield Tea:"

℞ Triticum .....
Liverwort..... ...aa ʒ j.
Senna ..... ʒ viij.

—*Med. Record.*

Teniafuge:

Salicylic acid..... 7 grains.
Ethereal extract of male fern.. 9 grains.
Oil of cinnamon..... 10 drops.
Gum arabic..... 2 drams.
Simple sirup..... 1½ fluidounces.
Distilled water..... 3 fluidounces.

To be taken fasting in the morning in two parts, with an hour's intervall.

Abortive Treatment of Coryza of Infants:

Cocain .....
Menthol .....
Sugar of milk.....each 2 drams.
Boric acid..... 10 grains.

A small portion of the powder to be insufflated.—*Jour. de Med. de Paris.*

Periscope.

GYNECOLOGY.

At a recent meeting of the Paris Hospital Medical Society, M. Le Gendre remarked that while its influence on the circulation and on the nervous system was well understood, but little attention has been paid to **the effect of the menopause on the renal functions.** He had observed several cases which had led him to the conclusion that the change of life sometimes disordered the secretion of the urine, perhaps by provoking renal congestion and diminishing the amount of urine, thus depriving the organism of one of its emunctories and leading to the retention of noxious substances that were nominally carried off in the menstrual blood. A certain degree of autointoxication might result from this retention. This was most apt to occur in women who were of a pronounced neuro-arthritic habit. The symptoms mentioned by M. Le Gendre were a reduction of the amount of urine, sometimes moderate albuminuria, often lumbar pains, nausea, vomiting, and intense headache. They could be prevented, ameliorated or altogether overcome by wet-cupping or leeching in the region of the kidneys, depleting the cervix uteri or general blood-letting, together with the use of diuretics, such as milk and theobromine.—*Univ. Med. Mag.*

In reviewing the subject of **Painful Menstruation—Its Causes and Treatment,** Lawrence (*Int. Jour. of Surg.*) presents the following conclusions:

1. Painful menstruation is not a disease, but merely a symptom found in various pelvic diseases.
2. Those classifications which place it as a disease are misleading and should be discarded.
3. The physiology of menstruation, a thorough knowledge of pelvic pathology, and a broad, careful habit of study and thorough ease-taking, are necessary in order that menstrual pain be rightly construed.
4. Many of the cases due to the uterus, tubes, or ovaries, may be cured in the early stages by simple means, whereas neglect places them in a position demanding serious operative treatment.
5. Painful menstruation in a sterile patient is strong evidence that there is tubal inflammation with occlusion of tubes.
6. Operative procedures should be reserved for those cases in which there is a positive pathologic indication; neurotic and anemic cases being treated by other and more appropriate measures.
7. As a symptom, menstrual pain is often of such grave import that it should always receive the most painstaking study. If this be the rule, many a case will be cured without operation.

MICHAUX (*Bull. et Memoires de la Soc. de Chir. de Paris,*) describes a case of **Fibroma of Parietes,** so much more prevalent in women than in men. The tumor developed almost immediately after a blow on the abdomen from the shaft of a cart. The patient became pregnant, when the tumor grew very rapidly; when removed eighteen months after the accident it weighed eight and one-half pounds. It grew in the sheath of the rectus. Notwithstanding its size, it was at no point adherent to the peritoneum.—*Brit. Med. Jour.*

MARSI (*Centralbl. f. Gynak*, No. 38, 1897,) observed the phenomenon of **Vicarious Menstruation after Removal of Ovaries** in a young lady who had undergone vaginal extirpation of the appendages for chronic inflammatory disease. For four months the urine became bloody precisely at the date of the normal period before the operation. Neither at that time nor between the vicarious periods could any trace of patho-

logic products be detected, the deposit in the urine consisting of a few blood corpuscles and vesical epithelial cells.

According to CAMPBELL (*Brit. Med. Jour.*) **vaginal septa may be transverse or longitudinal.** Very strong transverse septa are occasionally found. They have usually a central aperture which, in labor, may require to be enlarged by dilatation of incisions. During labor these septa may simulate atresia of the cervix. Longitudinal septa are more common and more likely to cause perplexity during labor. They may be confined to the lower half or two-thirds of the vagina, or may extend throughout its entire length, being then continued into the uterus. One compartment of the vagina is larger than the other as a rule, and usually the right. When the septum is complete, it is the rule for its upper end to give way during labor, leaving an opening between the upper parts of the two vaginal canals.

Inoperable Cancer and Oophorectomy.—Dr. George Beatson two years ago suggested that some pathologic condition of the ovaries was the exciting cause of cancer of the breast. Denying the parasitic theory, he held that cancer cells would ultimately be shown to be germinal epithelial cells. Epithelial cells in the ovary and the testicle became germinal cells by some influence in these organs, and removal of the ovaries or testicles would have an inhibitory influence on this proliferation of epithelial cells. It is undoubted that there is some connection between the mammary glands and the reproductive organs, and the breast is one of the commonest seats of cancer. Impregnation and gestation set up a normal evolution in the breast, and it seems not unreasonable to assume that an abnormal stimulus may explain cancer. Dr. Beatson's experience and that of Stanley Boyd, Watson Cheyne, and others has certainly proved that removal of the ovaries does influence the growth of the cancer. Two important observations are valuable as negative evidence. Dr. Beatson found, after experience of four cases, that oophorectomy for uterine cancer only resulted in temporary diminution of the bleeding.

Mr. Stanley Boyd published valuable evidence about his fourth case. The patient was sixty-four, and he removed the ovaries eleven months after amputation of a cancerous breast, as a nodule had developed on the sternum and second intercostal space. The ovaries were so excessively atrophied that, as Mr. Boyd remarked, it would be difficult to conceive that they discharged any function or exercised any influence at all upon the rest of the tissues. The operation did not arrest the growth of the sternum. But though the influence of the ovaries on the mammary gland appears manifest, it is equally certain that it is transitory. Experience thus appears to prove that the operation influences cancer of the breast favorably but not permanently. Even when improvement is long maintained allowance must be made, as Mr. Marmaduke Sheild has remarked, for the vagaries of recurrent cancer, the recent discussion at the Royal Medical and Chirurgical Society throwing much light on this important fact. We suspect, therefore, that oophorectomy for the relief of inoperable cancer of the breast is a practice which will fall into disuse.—*Med. Press.*

In a talk on **Office Gynecology,** Dr. Thomas B. Eastman (*Indiana Med. Jour.*, February, 1898) says he believes that silver nitrate is a potent agent in the treatment of pathologic conditions of the cervical mucous membrane, especially in the treatment of slight lacerations, and therefore in the prevention of cervical carcinoma, caused in the vast majority of cases by the prolonged localized irritation incident to these fissures when long neglected. The pharmacopeia describes a No. 2 lunar caustic, consisting of 67 per cent. of potassium nitrate and 33 per cent. of silver nitrate. This preparation, fused on a silver probe, after the method of Lente, should be lightly applied to the diseased parts and the excess removed with a pledget of cotton. It should not be used oftener than every five or six days. Many cases require a much weaker dilution, to be made by dissolving the silver-potash preparation in water.

The tampon properly placed is an efficient remedy. A tampon may be used as a means of keeping various medical compounds in contact with the parts adjacent to the uterus, or it may be used as a mechanical device, or both, but it is in a mechanical way that its best effects are seen. Placing a tampon does not consist in stuffing the vagina with cotton or wool. A tampon should be placed definitely for a definite purpose. Ovaries prolapsed into Douglas' cul-de-sac, and adherent to its peritoneum, are a source of much distress to many women, and yet in not a few cases there is no pathologic condition in the ovaries themselves which a restoration to a proper position would not rectify. In these cases a tampon placed in the vaginal fornix in a postero-lateral relation to the uterus, leaving a space behind the cervix, so that tampon placed anteriorly forces the cervix toward the sacrum, tends to support the ovary and to remove the strain put upon its natural support, and thereby restore the circulation and relieve the congestion.

A vaginal douche, to be of any benefit in the long list of pelvic inflammations, such as oophoritis, salpingitis, parametritis, and inflammatory exudates, for the treatment of which it is so admirably fitted, must possess three indispensable qualifications:

1. The water should be gradually heated to a temperature of 120 degrees or 125 degrees F. and maintained.

2. It should be used with such a device as will completely occlude the ostium vaginæ, and thereby permit of maintaining a body of water in the vault of the vagina.

3. It should be used in large quantities. A double-flow douche, which will protect the external parts is necessary.

In cases where the ovary is large and tender to the touch, the accompanying congestion may be very materially relieved by the use of a sponge-covered electrode, connected with a positive pole of a galvanic battery placed well back in the vagina beneath the ovary, with the negative pole placed on the abdomen above. It should be used every other day, and in the intervals the ovary should be supported by a tampon. When the ovary has become less tender and the local congestion diminished, bipolar faradization, fine wire, or secondary current every third day will complete the symptomatic cure. Again, most of the painful conditions in the pelvis may be benefited by the sedative effect of the fine wire faradic or the positive pole of the galvanic battery.

In the last three measures described—tampons, douches, and electricity, combined—we have the means of obviating the necessity of many operations, but they must be used wisely, not after sound judgment demands operative procedure.

SURGERY.

Carl Beck, in a paper on **Cholecystostomy,** (*New York Medical Journal,*) states that if the most minute aseptic precautions are taken, the mortality rate of simple cholecystostomy is very low. Hans Kehr, who reported two hundred and six laparotomies for cholelithiasis at the last congress of the German Surgical Society, did not lose a single patient in a hundred and twenty-six subsequent cholecystostomies. Such numbers speak loud in favor of early surgical interference, and it may safely be maintained that the dangers of the disease are greater than those of the operation. I have lost none of my patients in non-complicated cases.

In summing up, he advises the operation as follows:

1. Whenever the diagnosis of acute cholecystitis is

made, cholecystostomy should be performed without delay.

2. Cholecystostomy should also be performed in chronic hydrops of the gall-bladder.

3. Whenever acute colicky attacks in the region of the gall-bladder, combined with fever, return for a second or third time.

4. Whenever jaundice is present for more than four weeks.

5. In gallstone ileus.

6. In all obscure cases where inflammatory symptoms in the region of the gall-bladder resembling peritonitis turn up, exploratory laparotomy is indicated.

Acute intussusception is a condition which, if not promptly relieved, tends to a rapidly fatal termination. Unfortunately, it is not possible to distinguish clinically cases in which irreparable damage is being done to the invaginated intestine from those in which the constriction is less severe. We are, therefore, more or less in the dark as to the precise condition with which we have to deal. Experience has shown, however, that twenty-four hours is the average limit of safety, and this fact constitutes a valuable guide to treatment. Time is of the greatest importance, and whatever treatment is employed must be undertaken without delay if success is to reward one's efforts. In cases of less than twenty-four hours' standing it is permissible to attempt reduction of the invagination by injections of water or air, but these means often fail to attain the object in view, and in such event valuable time will have been lost in resorting to the only trustworthy plan, viz., reduction through the abdominal wall. This can often be done through a very small incision, so that the operative risks are small, especially in view of the extreme fatality of the condition when left unrelieved. The method of injecting air or water is, moreover, open to the objection that in a large proportion of the cases in which it apparently causes the disappearance of the tumor the bowel only uncoils itself up to the point where the invagination first began, and no further. It follows that when the distending force is withdrawn the invagination returns, entailing abdominal section as a last resort under much less favorable conditions. According to Leichtenstein's statistics, cases of intussusception comprise close upon forty per cent. of enteric and ileo-colic invaginations. These are obviously out of the reach of any distending force applied from below. Moreover, of the remaining ileo-cecal and colic cases, though theoretically amenable to distension, a large proportion do not come under treatment until the strangulation and edema of the bowel have rendered reduction by such means impossible to effect, and dangerous even to attempt. The moral of these statistics is that, except in the rare instances in which the practitioner is called in within a few hours of the onset of the symptoms, it is safest not to employ injections, but to proceed at once to abdominal section. —*Med. Press.*

Ultimate Results of Operations for Spina Bifida and Encephalocele at the Prague Children's Hospital since 1888: Without operation, death: with operation for encephalocele, 38 per cent. saved; for spina bifida, 41 per cent. saved. Of these that survived the latter operation, 59 per cent. died within a certain interval afterward. C. Bayer adds that a favorable result can only be expected of the operation when there is no hydrocephalus, paralysis nor defects in important regions of the central nervous system. He no longer operates if any of these are present. He covers the sewed up, reduced meningeal sac with a flap of fascia or muscle, periosteum on the skull, and consecutive skin flap suture.—*Cbl. f. Chir., April 2.*

Bobroff (*Khirurgya*) gives the history of four cases of **hydatids of the liver** and one case of hydatid cyst of the pancreas successfully operated on by him. His method of operating differs from that adopted by other surgeons. After incising the cyst and letting out the fluid, he removes the chitinous wall and carefully disinfects the interior of the fibrous capsule. The sac and the abdominal walls are then completely closed by sutures, no drainage being provided. At one time the author used to fill the sac with a solution of sodium chlorid, but experience has proved this to be superfluous. The transudation of fluid towards the emptied cyst only takes place if the cavity is left open and drained. In one case the author had to operate a second time on the same patient fourteen months after the first operation, as a fresh cyst appeared in the left lobe of the liver, after the removal of the hydatids from the right lobe. The latter was found at the second operation to be diminished in size, but not adherent to the abdominal wall; a depressed scar was felt over the place where the sac was stitched up on the first occasion. Convalescence in all the five cases was rapid, the patients being able to leave their beds in two or three weeks after the operation.—*Brit. Med. Jour.*

SCHULLER (*Verhandlungen des XV. Congress fur innere Medicin zu Berlin,*) describes a form of **chronic joint disease of supposed microbic origin,** to which is given the name of polyarthritis chronica villosa. This disease, which is characterized by considerable swelling of the affected joint, consists in a chronic inflammatory hyperplasia of the synovial tufts, and differs from arthritis deformans in the absence of any morbid change in the bone and articular cartilage. This condition is regarded as quite distinct from acute rheumatism, and as having no etiologic relation to either tuberculosis or syphilis. The author reports favorably of his operative treatment in such cases. This consists in opening the affected joint, in excising the enlarged synovial tufts, in washing out the cavity with sublimate solution, and finally by carefully injecting the mixure of guaiacol, iodoform, and glycerin. This treatment, which in several cases was practiced on two or three joints in the same patient, results, it is stated, in complete relief from pain, and in decided improvement of the function of the limb, and, in the more recent cases, in full restoration of its movements. In some instances the improvement in the joint thus treated was followed by diminished swelling in other affected joints which had not been submitted to operation.—*Brit. Med. Jour.*

Uretero-ureteral anastomosis is a perfectly feasible procedure. 2. Uretero-ureteral anastomosis, whenever possible, is far preferable to any other form of ureteral grafting, to nephrectomy, and to ligation of the ureter. 3. It should be done preferably by lateral implantation, or by oblique end-to-end anastomosis, though the transverse end-to-end or the simple end-to-end method may be safely employed. 4. The constrictions of the calibre of the ureter do not usually follow attempts at suturing in closure of complete transverse section of the duct. 5. Nephrectomy for transverse injuries of the ureter, *per se*, is an unjustifiable operation. 6. Simple ligation of the ureter, to produce extinction of the functions of the kidney, is too uncertain to justify its practice. 7. Drainage is not necessary if the wound be perfectly closed and the tissues throughout are aseptic.—J. WESLEY BOVEE in *Med. Rec.*

DR. ROBERT T. MORRIS says: **In an incised wound,** the margins of which have not been quite approximated, capillaries begin to develop granulation tissue in the coagulated lymph which has been deposited upon the surface. This deposit occurs within a few hours, provided there has not been much injury to trophic nerves. This granulation tissue is of exceedingly delicate structure, and will not bear much handling; it is extremely sensitive to any sort of traumatism, such as would be inflicted by sponging it. When a granulating wound is suppurating freely there is a

strong temptation to wipe away its pus with sponge or gauze, but we should avoid doing so. There are two principal reasons for this: The first is, that the granulation tissue suffers traumatism whenever it is touched, and as a result there will be developed exuberant granulation tissue, which will be poorly supplied with blood-vessels. If we place gauze upon the granulations, we injure this granulation tissue still more, for the little filaments of the gauze entangle the granulations in the meshes, and on the removal of the gauze small fragments are necessarily broken off. In order to avoid wiping away the pus from the granulation tissue it is well to cover the wound with very soft and properly prepared gutta percha tissue, or with Lister's protective silk.—*Post-Graduate.*

Asch's Operation for Deviations of the Cartilaginous Nasal Septum was first performed by Dr. Morris J. Asch in New York City, in 1882, and the first public report of it was made in 1890. At that time but six cases were reported. For several years the great value of this operation has been unquestioned among those who have become acquainted with it, and as a remedy for such defects it deserves a wider employment among those doing nasal surgery. The simplicity of procedure and the high percentage of cures commend it as being one of the most desirable of methods. It is not applicable to marked deviations or exostoses of the bony septum. Neither is it indicated in those angular deviations of the cartilaginous septum which can be easily removed by the saw or galvano-cautery. But for all extensive deviations of the cartilaginous septum, it seems to be the procedure *par excellence*. After loosening any adhesions that may have formed between the septum and the turbinates, a specially devised pair of scissors, one blade of which is non-cutting, is introduced, the cutting blade on the side toward which is the deviation, and an incision made through its most prominent portion. The scissors are then withdrawn and inserted a second time, and another incision made in such a manner that the second shall cross the first at its middle. In this way an X-shaped perforation has been made in the septum. The finger is then inserted in the nostril and pressure made against the projecting portion and the septum fractured, the fragments made to override one another and the deviation corrected. This correction is further accomplished by the use of the specially devised pair of compression forceps, the blades of which cannot completely meet but which approach one another sufficiently to make firm compression on the septum; and, if necessary, the forceps may be used to further fracture the cartilage of the deviating portion. Perforated vulcanite hollow splints are then inserted into each nostril and kept in place until healing is sufficiently advanced to hold the tissues in the position in which they have been placed by the operation. Hemorrhage is seldom excessive, and is controlled by sprays of an iced antiseptic solution, such as Dobell's. Peroxide of hydrogen may be used for the same purpose.—*Col. Med. Jour.*

DIAGNOSIS.

Writing of the **Situation of Pain in Intra-Abdominal Conditions,** EASTMAN, (*Denver Med. Times*), says: The small intestines are abundantly supplied by and intimately associated with the great sympathetic ganglia. These fickle-minded sympathetic nerves have no geographic sense; hence a pain coming from an obstruction in any part of the small intestine is expressed in the solar plexus of the sympathetic or superior mesenteric ganglia. This holds true with other intra-abdominal conditions. In a large per cent. of cases of appendicitis a careful review of the history of the pain will show that it was first expressed above the umbilicus in the region of the superior mesenteric ganglia.

The Diagnosis of Malarial and Quinin Amaurosis.—Dr. Juan Santos Fernandez, of Havana, in an article on this subject (*Journal of Eye, Ear, and Throat Diseases* for April), says that, as a matter of fact, the diagnosis between quinin and malarial amblyopia can only be made by an examination of the fundus of the eye. It is by this method that we always find either retinal alterations like those observed in patients suffering from malarial disease, or simply ischemic troubles, as in cases of quinin intoxication.

Gruner, of Schwarte's clinic (*Berl. klin. Woch.*, December 28th, 1896), observes that a prognosis of operative treatment in **Cerebral Abscess Due to Ear Disease** is not so good as might be expected, (1) because these abscesses have not been infrequently multiple (20 per cent) and (2) because of the difficulty in correct diagnosis. A number of these abscesses run a latent course. Occasionally the symptoms are few and of a passing character. Again the patient is sometimes seen in the last stage of the disease when the abscess has burst through on to the surface of the brain, or has ruptured into the ventricles. Even when the patient has been under observation in hospital for some time diagnostic mistakes are possible. When the abscess is complicated by other intracranial complications, a correct diagnosis may be out of the question.

OBSTETRICS.

Obstruction of labor by an ovarian tumor in the pelvis, though not a very frequent, is nevertheless a very awkward, complication, the more so as it almost invariably comes upon the obstetrician as a surprise. It is quite exceptional for the condition to be diagnosed before the onset of labor, and its discovery in any event is usually a mere accident. The fact of its presence in the pelvis entails its being of comparatively small dimensions, but although too small to have determined any local trouble, it is still capable of constituting a serious obstacle to delivery. It is unwise to trust to Nature to accomplish her ends. Remarkable difference in the mortality of the older returns as compared with those of recent years is noted and this is largely attributable to the growing practice of dealing with such cases forthwith, without waiting for the mother's condition to become desperate. Another fact which is clearly proved by statistics is the ease with which, in many of the cases, reposition of tumor above the pelvic brim can be effected either through the vagina or by pressure applied *per rectum.* This is obviously the most satisfactory method of remedying this abnormality, but the statistics also show that attempts to deliver by forceps or turning alone are fraught with the gravest danger to both mother and child.

Apart from the risk of inflicting serious injury to the maternal structures by the force required to drag the fetus past the obstruction, there is the ever-present risk of rupturing the cyst with almost inevitably fatal results. When the tumor has been pushed up or removed or emptied, the forceps may with advantage be made use of to expedite delivery, but not otherwise. When the tumor is entirely cystic puncture *per vaginam* is perhaps the easiest and safest treatment should reposition prove impossible of accomplishment, but there is a growing distrust of this method of dealing with the tumor, even when wholly cystic, and when it happens to be partially solid it is worse than useless.

The tendency of modern obstetrics, failing reposition, is to have recourse to Cesarian section, which has given excellent results, though the scope of the operation has lately been reduced by the highly successful results obtained by *intra-partum* ovariotomy.

Diagnosis is usually easy enough provided the condition be suspected. There are other questions of interest in this relationship, as, for example, the best course to adopt with regard to the tumor in cases when it has been found possible to effect delivery. An ovarian tumor is a certain source of future trouble.

Therefore it ought always to be removed when Cesarian section is employed concurrently with that operation. Under any circumstances it is usually prudent to keep the patient under observation for some weeks or months after delivery, in order to intervene should any inflammatory or other symptoms referable to the tumor manifest themselves.—*Med. Press.*

An Unusually Severe Case of Double Mastitis Necessitating Radical Surgical Interference.—T. R. Marshall, of Richmond, (*Med. Rec.*,) reports the patient being a young mulatto girl who had been attended in confinement by a "granny," labor being evidently normal. The child was put to the breast, but after the third day the breasts enlarged so rapidly that the child had difficulty in withdrawing the milk. The child therefore was fed on cow's milk and the breasts milked by hand. Subsequently, recognizing that pus was present, several small incisions were made, but with little effect. The breasts became enormous in size, the circumference of the base of the left breast measuring thirty-six inches, and protruding forward from the pectoral muscle eight and one-half inches. The circumference of the right measured thirty-three inches and protruded nine inches. The temperature was at this time 107.5°, toxemia being present. After making three incisions at different points, beginning at the base and terminating at the areola around the nipple, the pus and disintegrated breast-structure being entirely removed, which, in so doing, removed most of each breast, the cavities were thoroughly irrigated, packed with gauze and strapped. The wounds were dressed each day subsequently, the temperature being normal on the third day.

Cullen and Wilkins cite a case of pregnancy in a rudimentary uterine horn; rupture; death; probable migration of ovum and spermatozoa in *Johns Hopkins' Hospital Report*. The patient was 29 years of age, and had borne a child 18 months before coming under observations. At this time she supposed herself to be three months pregnant, and complained of severe abdominal pain. Vaginal examination disclosed a globular tumor the size of an orange low down in the pelvis and to the left of the uterus. A diagnosis of tubal pregnancy was suggested. The uterine cavity was found to be empty, and measured four inches in length. Twenty-four hours later the pains suddenly ceased, she became collapsed, and died in a few hours. At the autopsy the abdominal cavity contained four pints of blood, and a four months' fetus, with its membranes, was found floating loosely in the peritoneal cavity. The uterus was developed and lay somewhat to the right. To this a pregnant left rudimentary horn was attached by a muscular band, arising at the level of the internal os. This pregnant left horn had ruptured, and, projecting through the rent, placental tissue was seen. The left Fallopian tube and ovary were normal, and the left round ligament commenced at the outer side of the rudimentary horn. The corpus luteum was on the side opposite to that of the pregnancy. The microscopic appearances were carefully worked out. The right well-developed uterus possessed a typical decidua, and some placental cells were found in the right tube. The pedicle joining the two horns contained a narrow canal, lined by cylindrical epithelium. This, however, was closed at both ends, and there was no communication between the two uteri. Migration of the ovum and spermatozoa probably occurred via the abdominal cavity, since the corpus luteum was in the right ovary. Up to the present time thirty-nine cases of this kind have been recorded.

The *clinical history* is somewhat variable. Rupture usually occurs between the fourth and fifth month, and is rapidly fatal, with signs of internal hemorrhage. Some cases advanced to term without any unusual symptoms. Uterine contractions then occurred, and a bloody discharge from the vagina appeared. Some cases have been operated upon at this period or later (Sanger, Werth, etc.); others have been museum specimens. The *symptoms* of these cases are virtually the same as those of tubal pregnancy. On examining the uterus, however, the sound reveals that in pregnancy of the rudimentary horn the canal is flexed at the internal os, and the uterus deviates away from the tumor. The pedicle of the sac commences at the internal os instead of at the uterine cornu, and usually allows free mobility of the rudimentary horn.

The *treatment* consists in amputation of the pregnant rudimentary horn. If rupture has occurred the operation must be performed at once, as death has taken place within two hours. Eleven cases have been operated upon, eight of these were cases which had not ruptured, and operation was performed between nine and twenty-eight months after conception. In three cases only operation has been performed before the fifth month. Of these one recovered (Landau), one died, and of the other no result is stated. It will thus be seen that this is a most fatal form of abnormal gestation.

PEDIATRICS.

Rheumatism in Children.—It is a recognized fact that many diseases present peculiar clinical characters in young children which are not seen in adults, says an editorial in the *Archives of Pediatrics*. In some diseases the clinical course is so dissimilar in infants and adults as to make them seem like totally different conditions. This is particularly true of rheumatism, and led to the belief in former years that the disease did not occur in early childhood. It is now known that that belief was an error.

Among those who have studied rheumatism in children most carefully and have done most to correct older errors of belief regarding it, is Dr. W. B. Cheadle, of London. In a recent article in *Treatment*, he describes the various peculiarities of the disease in the young and writes most judiciously regarding the treatment. He refers particularly to the fact that the risk of cardiac complications in acute rheumatism is in inverse proportion to the age of the patient. Hence the great importance of an early and correct diagnosis of rheumatism in children. But such a diagnosis is, unfortunately, often very difficult to make, and not uncommonly acute rheumatism is only thought of as a cause of some childish ailment when irremediable damage has been done to the heart by an endocarditis or pericarditis which has run an insidious course. And yet, if sought for carefully, there are in nearly every instance certain symptoms which ought to suggest the true nature of the ailment.

The mistakes made in the diagnosis of acute rheumatism in children arise chiefly from the fact that in this class of patients the symptoms of arthritis, acid sweats, and pyrexia, to which we trust chiefly in diagnosing the disease in older people, are less prominent. The disease runs what in the adult would be called a sub-acute course. In acute rheumatism of early life arthritis is at its minimum; endocarditis, pericarditis, and chorea at their maximum; pleurisy, tonsillitis, and the vasomotor and hemorrhagic phenomena, the erythemata and purpura, are more common, tending to decline as puberty is passed. There is also a special tendency in children for the various phases of the affection to arise independently and apart from one another. This is an important point, which Dr. Cheadle was one of the first to point out. Endocarditis or pericarditis may arise in a rheumatic child not only without any accompanying joint affection but, in rare instances, without any recognized rheumatic phenomena to give warning of the nature of the true complaint. As a rule, however, a slight stiffness of the joints, chorea, crop of nodules, or erythema give some slight indication of a rheumatic condition. When a case of endocarditis or pericarditis arises in a child there is always a strong *prima facie* presumption that it

is rheumatic. If, with the cardiac affections, we have chorea, fibrous nodules, tonsillitis, erythema or pleurisy, whether these have occurred recently or have cropped up at intervals through months or even years, the cardiac inflammation is, almost certainly, rheumatic.

The existence of a family predisposition is of great significance. The occurrence of the conditions mentioned above and even the presence of the subcutaneous nodules alone, which are pathognomonic of rheumatism, are sufficient for diagnosis. As the heart affection is so serious in children this organ should be carefully examined whenever any of these rheumatic symptoms are met with, and in every feverish attack, simple though it may appear, the condition of the heart should be regularly ascertained.

The editor of *Pediatrics*, referring to the two principal varieties of **reflex coughs of children**, quotes MacCoy to the effect that hacking night coughs of children are mostly due to naso-pharyngeal obstruction, with mechanical irritation by retained secretions. The other class, a paroxysmal hacking cough described by Dr. Francis Warner, of London, occurs in emaciated children with poor appetites, but who have a normal temperature and apparently healthy lungs, and is attributed by him not to peripheral irritations as of intestinal worms, but to unballanced central nerve action. This opinion, somewhat at variance with that generally held by the profession at large, is based on the examination of 22,000 school children.

De la Feuente, in the *Presse Medicale*, states that we can **diagnosticate intestinal helminthiasis** without examination of the stools by one or both of two signs, namely, very sudden and severe attacks of colic confined to one part of the abdomen, with localized tenderness; and, second, bilateral narrowing of the visual fields, usually so pronounced as to be detected by passing a finger to and fro before each of the patient's eyes.—*N. Y. Med. Jour.*

MEDICINE.

Neurasthenic Hunger.—Neurasthenic individuals sometimes experience peculiar attacks resembling fainting spells, with extreme weakness, pallor, vertigo, cold perspiration, weakness and trembling in the knees and a sense of heaviness in the head. T. Benda describes one patient thus affected every afternoon toward night. He noticed that in many persons hunger accompanied the attacks and assuming that they were due to exhaustion from lack of food, combined with autointoxication from food in the intestines which the neurasthenic stomach had hastily passed along in a more or less undigested condition, he found that he could cure them by having the patient eat something, and prevent them altogether by small frequent meals.—(*Deu. med. Woch.*,) *Jour. A. M. A.*

Dr. John Lovett Morse concludes, from a study of thirty-seven fatal cases of **Cirrhosis of the Liver** (*Boston Med. and Surg. Jour.*) that it is a comparatively rare disease. It is the result, in the vast majority of cases, of the abuse of alcohol. Alcohol may cause either an increase or a diminution in the size of the liver. Both are due to the abnormal development of connective tissue. Why hypertrophy results in one case and atrophy in another is at present unknown. All forms have the same symptoms. There is no regularity in the relative development of these symptoms. The sequence, however, varies to a certan extent in the different forms. Portal congestion plays a less important part in the development of these symptoms than is generally supposed. Many of the associated lesions are of the same nature as those in the liver and are due to the same cause.

Fisk inveighs in his forcible manner against **polypharmacy and useless drug-giving in cases of phthisis.** He believes that digestion should be protected at all hazards. Frequently he has seen patients—taking many drugs and failing rapidly because they had no appetite and could not digest what they ate—improve rapidly when the digestive tract was cleared by the use of calomel.

By digestion he means the ability to eat, to assimilate, and to eliminate—in short, to nourish properly.—*University Med. Magazine.*

In patients suffering from **Pharyngitis and Naso-pharyngitis,** in whom there exists the condition known as "slanting pharynx," due to irregularity of the anterior portion of the cervical vertebra, one side projecting further forward than the other, treatment will only relieve the immediate attack and it is almost impossible to effect a cure. In inflammations involving the nasal and naso-pharyngeal structures, in which douches are employed, it must be remembered that the solution which is of the proper strength for the inflammation and diseased structures may, after the relief of the condition present, by its prolonged continuation keep up exactly the condition which you aim to relieve. It is well to occasionally stop all treatment for a week or ten days.—D. Braden Kyle.

In every **Diseased Condition of the Bladder** test the reacton of the urine. No bladder will heal when the urine is strongly alkaline. Perhaps the urine can be best rendered acid by five-grain doses of benzoic acid or five-grain doses of boric acid, several times a day.—Hearn.

Goldscheider, (*Deut. Med. Woch.*,) writing of **Exercise Treatment in Nervous Diseases,** more especially refers to tabes dorsalis and some other diseases. He maintains that the ataxia is due to a disturbance of the muscular sense. He first learned to use exercise treatment in v. Leyden's clinic; but this method has been subsequently largely extended by Fraenkel. In the so-called paraplegic stage of tabes slight flexions and extensions, etc., of the limbs may be made when the patient is in bed. Help may be given by lightly supporting the thigh or leg. A chair may be inverted over the foot of the bed, and the patient can then exercise himself in touching the cross bars or by putting the feet in between them. The movements are first made with the eyes open and afterwards with closed eyes. Ample periods of rest must be allowed so as not to produce fatigue, otherwise an exhaustion lasting over several days may result. The author confirms Fraenkel's opinion that even in these advanced cases improvement may be produced and the patient may even walk again. Some patients do not improve, and sometimes the exercises have to be given up owing to the pains which are apparently induced by them. In less advanced cases various movements may be practiced to improve the gait, and the author figures many pieces of apparatus adapted to this end. A chair on four legs with rollers may be useful. The treatment must be persisted in over long periods of time. The chief point lies in many movements performed without fatigue and with intervals of rest. The author draws attention to the absence of the sense of fatigue. In some patients there is an atony of the muscles, and here electricity and massage must be employed as well. The knee and hip joints may be supported by bandaging. The author then refers to the treatment of intentional tremor by exercises. He looks upon this tremor as closely allied to ataxia, and as capable of improvement by exercises. In chorea some improvement may also be produced, but the exercises should be carried out only once in the day or once in two or three days. The good effects of this treatment in writers' cramp are well recognized. In athetosis also some improvement may be produced by long-continued exercise treatment. In speaking of paresis and

muscular atrophies the author draws attention to the value of exercises carried out in a bath, and especially in peripheral neuritis. In neuralgias, etc., exercises, particularly of a passive form, may be useful. In articular pains left after rheumatism, and more especially after contusions this treatment is valuable.—*Gaillard's Med. Jour.*

The Treatment of Headache.—Headache may be clinically divided into three principal groups. The first group comprises cases of tic douloureux affecting the trigeminus and the occipital nerve. In the second group come the cases of neuralgia of the trigeminus, occipital and upper cervical plexus, while in the third group are the cases in which the nerves are pressed upon by neoplasms. Migrain is not always of the hemicranial type, and is characterized mainly by exaggerated hyperesthesia of the special senses. Prof. Benedikt, of Vienna, regards iodin as a specific in neuralgia and simple, neuritis, but he also employs electricity and the actual cautery. When the headache is due to the presence of intracranial tumors, iodin and mercury may render good service even when the neoplasms are not of syphilitic origin. In severe cases he even has recourse to trephining, a somewhat drastic remedy, which, as shown in fossil remains, used to be employed on a large scale in ages gone by.—*Med. Press.*

HOBDAY (*Journ. Comp. Path. and Therap.*,) says the great **objection to the use of potassium iodid** in veterinary practice, especially for the larger animals, where full and repeated doses have to be employed, is its expense. About two years ago, in the course of conversation, Prof. Edgar, of Dartford, observed that he had been using mercury biniodid as a substitute for potassium iodid in the treatment of actinomycosis, and that he found the treatment to be attended with an equal amount of success. The recipe used consisted of from two to six gr. of mercury biniodid dissolved in an ounce of water by the aid of from five to ten or twelve gr. of potassium iodid. Hobday has been able to collect a fair number of instances in which it has been tried successfully on cattle suffering from actinomycosis. In the treatment of chronic elephantiasis and of tumors of the shoulder and elbow, the biniodid has been used in the clinic at the Veterinary College as a substitute for potassium iodid and an equal amount of success has been obtained, together with the advantage of obtaining the alternative effect of the mercury. Prof. Edgar has also tried it successfully in the horse for the dispersal of glandular enlargements, for capped elbows, and for scirrhous cords; he has also found it a valuable agent as an astringent to the lacteal secretion in mares and cows. Summing up the results, Hobday concludes: (1) That the agent is very much cheaper to use than potassium iodid. (2) That the results which he has been able to collect regarding its value in actinomycosis confirm those which Prof. Edgar had already obtained. (3) That the observations which Prof. Edgar and himself had been independently making at the same time upon its therapeutic effects as a resolvent, specific and alterative in certain diseases of the horse, appear to demonstrate its value, and to agree in almost every detail. (4) They have each found that, as is frequently the case with potassium iodid, failure to continue with the medicine for a sufficiently long time may cause a relapse, the tumors again enlarging.

Poisoning by privet is a very rare occurrence; indeed, it is not mentioned by some of the most eminent authorities on poisoning. Cases have, however, from time to time been reported. Thus, in 1853 three children ate some privet berries; two of them died after violent convulsions, and the third recovered. In 1857 thirty-seven children suffered from poisonous symptoms after eating freely of acorns and privet berries. The symptoms were a shrivelled appearance of the hands and face, cyanosis, intense thirst, and sickness; opisthotonos was a marked symptom in each case. All the children recovered. In 1866 a child died thirty-seven days after eating the berries, symptoms of gastro-intestinal irritation continuing more or less throughout. In 1872 two children after eating privet berries were attacked with the following symptoms: drowsiness, convulsive twitchings, loss of muscular power, severe vomiting, and purging. February 18 an inquest was held at York Town on the body of a female child, aged eight years, who died two days previously after a few hours' illness. On the 16th she complained of pain in the head and stomach. At dinner-time she seemed better, but while food was being prepared she gave a cry and became unconscious and death took place before the arrival of a medical man. The child's teeth were tightly closed, her tongue protruding and her hands clenched. At the post-mortem examination the heart, liver, and kidneys were found to be quite healthy. The lungs were congested. The stomach was also much congested with one patch of superficial ulceration about the size of a shilling. The medical men who made the examination were naturally puzzled as to the cause which produced these conditions. On inquiry it was found that the child had eaten privet berries. None of these were found in the stomach, but they had probably been discharged by vomiting. The symptoms were in accord with the previously reported cases to which we have referred and we cordially commend the coroner's remarks that he hoped the evidence as to the privet berries would be a caution to parents as to their danger. Children are very apt to partake of any berries which they may see growing on bushes and it is important that the poisonous nature of many of them should be generally recognized.—*The Lancet.*

Optic Neuritis in Intercranial Tumor.—During the last 30 years general opinion has wavered greatly as regards the certainty and frequency with which optic neuritis is produced by a growth within the cranium, and the greatest authorities from time to time have made diametrically opposite statements with regard to this condition. At various times it has been stated that optic neutritis has no localizing value as regards the seat of disease, and at other times the directly contrary opinion has been put forward. Thus Dr. Hughlings Jackson in 1880 stated that "optic neuritis is of no value in localizing disease in any part of the cerebrum or cerebellum," and Mr. Horsley now holds that optic neuritis is of distinct value in locating the position of the disease, more particularly as regards the side on which the disease is situated. But it is when we come to the question of unilateral optic neuritis that we find the greatest difference of opinion. For some observers state that in a case in which optic neuritis appears only in one eye, or appears in one eye before the other, or is more marked in one eye than in the other, the seat of lesion is on the opposite side of the brain; whereas others equally positively state that the lesion is on the same side as the eye in which the optic neuritis first appears or is more marked. As an attempt to try to arrive at the true facts of the case by examining rather a larger number of reports than has been presented before, Dr. J. M. Martin of Brighton brings forward in seven tables the results of his analysis of 600 cases, collected by him from various sources. The general results thereby obtained are as follows: (1) That 68.8 per cent. of all cases of intracranial tumor are among males. (2) That the most common form of intracranial growth is sarcoma; gliomata and tuberculous tumors are of about equal frequency, but less common than sarcomata. (3) That headache is more likely to be absent in cases of tumors of the motor area and of the corpus callosum than when the tumor is situated elsewhere. (4) That the tumor is generally situated on the side on which internal strabismus is noted.—*Pacific Med. Jour.*

LEGAL MEDICINE.

Recovery Allowed for Injuries Sustained Before Birth.—A novel question was decided by Judge Chetlain of the superior court of Cook County, Illinois, September 24, 1897, in the case of Allaire v. St. Luke's Hospital. The question was whether a child after it is born has a right of action for injuries sustained by it *en ventre sa mere;* or, in other words, whether a child unborn is a person in being, so as to be entitled after its birth to maintain such an action. It was averred that the defendant was in the business of conducting a hospital and of accepting for accouchement for hire, women about to be confined; that the mother of the plaintiff, three or four days before his birth in the regular course of nature, applied to the defendant and contracted with it, upon a compensation then and there agreed on for it, for the latter to shelter, attend, treat during confinement and care for her and her child, then *en ventre sa mere,* during the period of childbirth and convalescence thereafter; that in pursuance of that agreement the mother paid such compensation, and was accepted at the hospital; that the servants of the hospital then and there placed her in an elevator for the purpose of taking her and the unborn plaintiff to an upper floor of the hospital for shelter, care and treatment, and that such servants so negligently and unskilfully conducted and operated the elevator that the plaintiff was permanently injured. The question of law applicable to the facts of this case does not appear to have ever been decided, either in this country or in England. From a careful study of such authorities as he could find bearing at all upon it, the judge came to the conclusion that, as a general principle, the child *en ventre sa mere* is considered as born or *in esse* when it is for its benefit, and especially so when the application of the doctrine will work no hardship. He further thinks that the rule should be applied in personal actions:

1. Where a person inflicts an injury upon a woman with child, knowing her to be such, and for the purpose of inflicting an injury upon her unborn child, whereby such child suffers permanent injuries.

2. Where a mother or other person contracts, upon a valuable consideration for, in reference to, or on behalf of the unborn child, for care and attention or other service for the benefit or safety of the child, or of both the mother and child, where the duty arises out of contract and from the relative situation and circumstances of the parties at the time of the occurrence of the acts of negligence. So, here, the judge holds that there was a good cause of action stated.—*Jour. A. M. A.*

A paper by Professor Francotte, of Liege, in the *Journal de Neurologie et d'Hypnologie,* of Brussels, had special reference to the **medico-legal relations of the somnambulism** which is met with as a result of alcoholism. Somnambulism regarded as the condition in which during loss of consciousness coördinated actions are carried out of which there is no recollection afterwards, is met with not only in hysteria, epilepsy, and the hypnotic state, but also as a result of alcoholic indulgence. Professor Francotte relates the following case of a man who was arrested for disorderly conduct in a public place. He could not be induced to answer questions or even to speak and appeared to be quite demented. There was no sign of intoxication, but next morning at the medical examination he confessed that at a place far distant from that at which he had been arrested he had imbibed a large quantity of alcohol. He had completely lost recollection of what had occurred during the next forty-eight hours. He confessed to other excesses in alcohol and there was marked tremor of the hands and of the tongue. A sister had been the subject of mental disease. Professor Francotte, after citing several examples, concludes that there is a species of alcoholic somnambulism, in which the patient behaves to all appearance in a normal way but without consciousness, or at least without having any recollection of what he has done. In reality, however, during such a time certain slight peculiarities of conduct are present which may easily escape the observer. The condition manifests itself only in degenerate individuals or at least in those who have inherited some psychical weakness, and as it is one which implies the absence of responsibility, unless it is intentionally induced, it is of great medico-legal importance.—*The Lancet.*

News and Miscellany.

Professor Von Voit, of Munich, Germany, has investigated the nutritive value of extracts of meat, and announces as the result of his researches that such extracts have very little if any nutritive value, and that their action is almost entirely a stimulating one, being due to the alkaloids, such as creatine and creatinine, which they contain.

The American navy is likely to soon have **a hospital corps** similar to that which obtains in the army. A movement has been inaugurated to establish hospitals at Portsmouth, New Hampshire; Chelsea, Massachusetts; Newport, Rhode Island; New York City; Philadelphia; Washington, District of Columbia; Norfolk, Virginia; Pensacola, Florida; Mare Island, California; and Yokohoma, Japan; and to organize a corps consisting of twenty-five pharmacists, sixty-five hospital stewards, thirty-five first class hospital apprentices, and sixty hospital apprentices of the second class. Twenty of the pharmacists are to receive $75 a month, and five $100; the stewards will be paid $60; the salary of apprentices of the first grade will be $24, and that of the second $18.—*Exchange.*

Does This Mean Sanitary Plumbing?—At the regular monthly meeting of the Board of Trustees of the Medico-Chirurgical College, Dr. Ellwood R. Kirby was elected clinical professor of genito-urinal surgery. —*Phila. Times.*

The Proper Treatment of Headaches.—J. Stewart Norwell, M.B., C.M., B.Sc., House Surgeon in Royal Infirmary, Edinburgh, Scotland, in an original article written especially for *Medical Reprints,* London, Eng., reports a number of cases of headache successfully treated, and terminates his article in the following language:

"One could multiply similar cases, but these will suffice to illustrate the effects of antikamnia in the treatment of various headaches, and to warrant the following conclusions I have reached with regard to its use, viz.:

(*a*) It is a specific for almost every kind of headache.

(*b*) It acts with wonderful rapidity.

(*c*) The dosage is small.

(*d*) The dangerous after-effects so commonly attendant on the use of many other analgesics are entirely absent.

(*e*) It can therefore be safely put into the hands of patients for use without personal supervision.

(*f*) It can be very easily taken, being practically tasteless."

Collective Investigation on the Action of Cold in Pneumonia.—Three collective reports already published by Dr. Mays on local cold applications in the treatment of acute pneumonia give a record of 299 cases so treated, with ten deaths, or a mortality rate of 3.35 per cent.

Being desirous of pursuing this investigation still further he asks those who have tested this measure to give to him the result of their experience. Full credit will be given to each correspondent in the report, which is hoped to be published soon. Blanks for the report of cases will be cheerfully furnished, with postage for return of same, on application. Address, Thomas J. Mays, M.D., 1829 Spruce St., Philadelphia.

Many manufacturers will undoubtedly advance the price of their products to the extent of the **stamp tax which the Government is about to impose upon proprietary preparations,** thus either reducing the profit of the retail druggists or shifting the tax directly upon your patients.

Despite the constantly increasing cost of barley, wheat, oats, cod liver oil, quinin and other commodities, which enter largely into the composition of the preparations, the Maltine company has decided to bear the tax of four cents per bottle which is to be imposed upon their output. The firm states that although this will entail a heavy burden upon them they deem it the duty of every patriotic citizen to contribute cheerfully and without quibbling such a share of the enormous cost of prosecuting the war as our Government may find it necessary to exact.

According to the *Chemist and Druggist;* the English patent granted to a German firm of chemical manufacturers for the "manufacture of oxypyraxols or substances formed by condensing hydrazines with the ethers of carboketonic acids," *alias* antipyrine, *alias* phenazone, expired recently. In view of this fact, a prompt fall in the price of this much-used and much-abused drug may be expected.

Laboratory Teaching.—The demands of medical science make it necessary to be familiar with chemical tests and the use of the microscope in order to do successful clinical work. The doctor trained under the old system is handicapped by the laboratory skill of his younger competitor, who knows how to stain sputum for tubercle bacilli, count blood-cells and estimate the amount of hemoglobin.—*Philadelphia Polyclinic.*

Physician's Influence.—It has occurred to us many times in the past that physicians do not pay enough attention to the influence on their business, of the conduct of themselves and their families. With this in view we wish to call the attention of our readers to this point. In our estimation a physician practicing outside of the larger cities must be a married man in order to be a success, and must have for his life partner a womn who is discreet, for even though he tries to keep separate his profesional and home life, many things are repeated as coming from the doctor's wife, "and, of course, she knows," which become so distorted in the rounds of gossip that the patient's family on hearing them will "never want that doctor again."—*Charlotte Medical Journal.*

Ethical Obliquity.—The most insidious quackery is not outside of the profession. The most culpable writers of testimonials to patent medicines are not the clergymen. They are medical men, who, while they may have a fair degree of mental astuteness, or may have improved good opportunities for education, and may hold prominent positions, have a certain bias in their moral faculties which allows them to twist themselves about, in stating scientific opinions, in a way which opens their pocket on the side next to the appreciative manufacturer. You read in a medical journal an article which purports to be purely scientific, or you listen to a lecture from one you have been led to suppose devoted to the study and elucidation of medical truth, and by and by you perceive that science is being juggled with to produce certain illusions.—*Cleveland Medical Gazette.*

Righthandedness.—Kellogg believes that the child is born using both hands, arms and legs equally well. Righthandedness is the result of careful training on the part of nurse and parent. Lefthandedness is probably started by a burn, strain or injury of the right hand during the critical period of babyhood. The great advantage of ambidexterity is dwelt upon, and Alex. Mott, Jos. Pancoast, Samuel F. B. Morse, Leonardo da Vinci and Michael Angelo are mentioned among the other notable ambidexters. The crossed fibers to either brain are believed to be a switching-off apparatus, intended for only temporary use, and all arguments based on anatomy as forcing rightsidedness are thought to be weak.

The Medico-Chirurgical College May Confer D.D.S., Ph.G., and Ph.D. Degrees.—Judge Gordon has dismissed the exceptions of the Philadelphia Dental College, which sought to restrain the Medico-Chirurgical College from conferring graduate degrees in dental surgery and pharmacy. He is of opinion that power to convey such degrees is constitutionally vested in the institution.

The Western Passenger Association, of Chicago, formally announces the following rates for the Denver Meeting of the American Medical Association, June 7-10:

RATE.—One regular first class normal tariff (not temporarily reduced) fare, plus $2.00, for the round trip from Association territory to Denver, Colorado Springs and Pueblo, Colo., and return.

DATES OF SALE.—Tickets to be sold from Eastern Committee territory June 2, 4 and 5, and from Trans-Missouri territory June 5 and 6, 1898.

LIMITS.—On going trip tickets to be good for continuous passage commencing on date of sale up to first Colorado common point en route; stop-overs to be allowed on going trip at intermediate Colorado common points, but to arrive at destination not later than June 7, 1898. The return to be continuous passage beginning on date of execution by Joint Agent, with the provision that the return passage shall not commence earlier than June 12, nor later than July 6, 1898. Tickets may be executed for return at destination or either of the other Colorado common points en route. Purchaser to commence his continuous passage return journey from point of execution.

DIVERSE ROUTES.—For this occasion tickets may read west of the Missouri River, going one route and returning another via any regularly authorized route via which regular short line one way rates are properly applicable.

Milk is filtered through sand in several European cities. By this process all dirt is removed, the number of bacteria is reduced one-third, and the quantity of mucus and slimy matter is greatly lessened, while the loss of fat in new milk is only slight. The filter consists of large cylindrical vessels divided by horizontal perforated diaphragms into five superposed compartments, of which the middle three are filled with fine clean sand sifted into three sizes, the coarsest being placed in the lowest, and the finest in the topmost of the three compartments. The milk enters the lowest compartment through a pipe under gravitation pressure, and after having traversed the layers of sand from below upward, is carried by an overflow to a cooler fed with ice water, whence it passes into a cistern from which it is drawn direct into the locked cans for distribution.—*Physician and Surgeon.*

What Is a Poison?—The definition of this word like that of life, appears to have more exceptions than confirmations. The only certain way seems to be to take a dose of the article and watch results, or better still, try it on the dog.

Successful Business.—"There is no money in the drug business" is a cry heard from every portion of the United States, but nevertheless one continues to meet well-to-do druggists everywhere. The fact is there is no money in any business unless properly conducted under suitable conditions. If you are not making money either the conditions or your methods are wrong and it behooves you to carefully study both and eliminate the cause.—*American Druggist.*

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